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=> fil reg
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=> d que
L2            20 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (1333-74-0/BI OR
                 15318-08-8/BI OR 19553-62-9/BI OR 20791-15-5/BI OR
                 310888-77-8/BI OR 310888-80-3/BI OR 310888-81-4/BI OR
                 310888-82-5/BI OR 310888-85-8/BI OR 310888-87-0/BI OR
                 7358-26-1/BI OR 7440-37-1/BI OR 7440-59-7/BI OR 75-24-1/BI
                 OR 7727-37-9/BI OR 870126-56-0/BI OR 870126-57-1/BI OR
                 870126-58-2/BI OR 870126-59-3/BI OR 97-93-8/BI)
L3             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  8-HYDROXYQUINOLIN
                 ATE/CN
L4             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  8-HYDROXYQUINOLIN
                 E/CN
L5           685 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  148-24-3/CRN
L6             7 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L5 AND (AL OR GA
                 OR ZN)/ELS
L7            16 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L2 AND M/ELS
L8        663827 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (AL OR GA OR
                 ZN)/ELS
L9        122525 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L8 AND  CCS/CI
L10       541302 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L8 NOT L9
L11       541302 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L10 OR L10
L12       300000 SEA FILE=REGISTRY RAN=(173351-91-2) SPE=ON  ABB=ON  PLU=ON
                  L10 OR L10
L13       241302 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L11 NOT L12
L14        23243 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L7
L15       143187 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L9
L16       140299 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L12
L17      2254991 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L13
L18           33 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L8 AND HYDROXYQUI
                 NOL?
L19            9 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  16582-16-4/CRN
L20            1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L19 AND (AL OR
                 GA OR ZN)/ELS
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L21	30	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L3
L22	10121	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L4
L23	1836	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L5
L24	9	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L19
L25	6	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L6
L26	9679	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L18
L27	1	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L20
L28	11763	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON (L14 OR L15 OR L16 OR L17) AND (L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27)
L29		QUE SPE=ON ABB=ON PLU=ON LUM!N? OR ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO OR ORG#)(2A)LUM!N? OR LIGHT?(2A)(EMIT? OR EMISSION?) OR EL OR E(W)L OR L(W)E(W)D OR OLED OR LED
L30	8689	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L28 AND L29
L31	2171	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L30 AND PROC/RL
L32	246823	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON "VAPOR DEPOSITION PROCESS"+PFT,NT/CT
L33	251	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L31 AND L32
L34	12	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L33 AND (L21 OR L22 OR L23)
L35	414	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L30 AND (L21 OR L22 OR L23)
L36	89	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L35 AND L31
L37	12	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L36 AND CPS/RL
L38	11	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L36 AND (VAPOR DEPOSIT? OR VAPOUR DEPOSIT?)
L39	23	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L34 OR (L37 OR L38)
L40		QUE SPE=ON ABB=ON PLU=ON REACTOR# OR (REACTION#) (2A) (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE# OR COMPARTMENT# OR RECEPTACLE# OR PORTION# OR PORT# OR ASSEMBLY# OR SUB#(W)ASSEMBLY#)
L41	1	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L36 AND L40
L42	7	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L31 AND L40
L43	29	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L39 OR L41 OR L42
L44	20	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L43 AND (1840-2006)/PRY,AY,PY
L45	258	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L30 AND (L21 OR L22)
L48	71	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L45 AND (FEED? OR DELIVER? OR SUPPLY? OR DISTRIBUT? OR TRANSPORT?)
L49	58	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND OPTIC?/SC, SX
L50	49	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND (1840-2006)/PRY,AY,PY
L53		QUE SPE=ON ABB=ON PLU=ON FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR OVERLAID? OR LAMIN? OR LAMEL? OR (MULTILAYER?) OR SHEET? OR LEAF? OR FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR VENEER? OR SHEATH? OR COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR OVERSPREAD?
L55	49	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L7 AND (L21 OR L22 OR L23)
L56	10	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L55 AND L29 AND L53
L57	21	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L55 AND L29
L58	21	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L56 OR L57
L59	18	SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L58 AND (1840-2006)/PRY,AY,PY

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L60          38 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L44 OR L59
L61           9 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L60 AND L50
L62          38 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L60 OR L61)


=> fil hcap
FILE 'HCAPLUS' ENTERED AT 09:35:46 ON 02 MAR 2010
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FILE LAST UPDATED: 1 Mar 2010  (20100301/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Dec 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Dec 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

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=> d l62 1-38 ibib ed abs hitstr hitind

L62  ANSWER 1 OF 38  HCAPLUS  COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER:         2008:379801  HCAPLUS  Full-text
DOCUMENT NUMBER:          148:415641
TITLE:                    Transfer material for electronic device, method of
                          forming insulating layer and partition wall of
                          electronic device, and light-
                          emitting element
INVENTOR(S):              Tateishi, Tomomi
PATENT ASSIGNEE(S):       Fujifilm Corporation, Japan
SOURCE:                   U.S. Pat. Appl. Publ., 25 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ----------          ----   --------    -------------------    --------
     US 20080075921       A1    20080327    US 2007-902031         20070918
                                                                   <--
     JP 2008084701        A     20080410    JP 2006-263437         20060927
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PRIORITY APPLN. INFO.: JP 2006-263437 A 20060927

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 28 Mar 2008

AB The present invention provides a transfer material with a strong adhesiveness for an electronic device that includes a transfer support and, provided on the support in this order, an insulating layer or a partition wall material layer, and a layer containing an organic low-mol.-weight compound having charge transportability; a method of forming an insulating layer and a partition wall of an electronic device using the transfer material; and a light-emitting element.

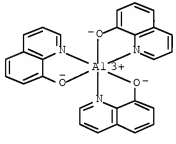
IT 148-24-3D, 8-Quinolinol, derivs. 2085-33-8, Alq3
(transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

RN 2085-33-8 HCAPLUS

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



INCL 428141000; 156230000; 428172000

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 48, 73

ST transfer electronic device insulating layer partition wall LED fabrication

IT Cluster ions
(beams; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Anhydrides
(dianhydrides; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Vapor deposition process

(ion plating; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Materials
(organic; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Chemical vapor deposition
(photochem.; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Polymerization
Vapor deposition process
(plasma; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Acrylic polymers
(polysiloxane-, US-3700; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Conducting polymers
(polythiophenes; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Chemical vapor deposition
Coating process
Dielectric films
Electroluminescent devices
Holders
Molecular beam epitaxy
Reactive sputtering
Release films
Semiconductor device fabrication
Sputtering
Transfers
(transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Metallophthalocyanines
Polyanilines
Polyesters
Polyphenyls
(transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT Vapor deposition process
(vacuum; transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT 67-63-0, Isopropyl alcohol, processes 78-93-3, Methyl ethyl ketone, processes 108-88-3, Toluene, processes 58328-31-7 60676-86-0, Vitreous silica 475644-38-3, Optool DSX 757974-86-0, TFR-H
(transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT 50926-11-9, Indium tin oxide 128770-43-4, HP 320 (polyester)
(transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

IT 90-44-8D, Anthrone, derivs. 92-52-4D, Biphenyl, quinone derivs.

147-14-8, Copper phthalocyanine 148-24-3D, 8-Quinolinol, derivs. 151-51-9D, Carbodiimide, derivs. 273-53-0D, Benzoxazole, metal complexes 288-42-6D, Oxazole, derivs. 288-88-0D, 1H-1,2,4-Triazole, derivs. 486-25-9D, Fluorenone, derivs. 574-93-6D, Phthalocyanine, derivs. 2085-33-8, Alq3 4425-82-5D, Fluorenylidenemethane, derivs. 7789-24-4, Lithium fluoride, processes 11120-54-0D, Oxadiazole, derivs. 12597-68-1, Stainless steel, processes 14990-02-4D, derivs. 25038-59-9, Lumirror T-60, processes 60475-00-5D, Thiopyran, derivs. 70359-39-6D, derivs. 95270-88-5D, Polyfluorene, derivs. 96638-49-2D, Polyphenylenevinylene, derivs. 123847-85-8 380234-99-1, ZPN 1100 693794-98-8
(transfer material for electronic device, method of forming insulating layer and partition wall of electronic device, and light-emitting element)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

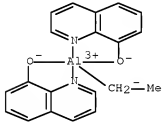
L62 ANSWER 2 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:1109833 HCAPLUS Full-text
DOCUMENT NUMBER: 147:416094
TITLE: Production method of organic electroluminescent device and electronic apparatus
INVENTOR(S): Takashima, Takeshi; Terao, Koichi; Shinohara, Takashi
PATENT ASSIGNEE(S): Seiko Epson Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 63pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007257898	A	20071004	JP 2006-77832 <--	20060320
KR 2007095194	A	20070928	KR 2007-24559 <--	20070313
US 20070231467	A1	20071004	US 2007-688128 <--	20070319
PRIORITY APPLN. INFO.:			JP 2006-77832 A <--	20060320

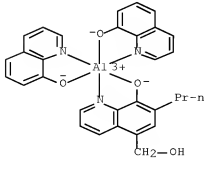
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 04 Oct 2007
AB The invention relates to a production method of an organic electroluminescent device that comprises ≥ 2 electroluminescent layers having dissimilar luminescent colors each other and fabricated between a pair of electrodes, comprising the steps of: forming a 1st color electroluminescent layer on a 1st electrode, using an electroluminescent polymerizable compound and a carrier transporting polymerizable compound; irradiating the 1st color electroluminescent layer to cure the polymerizable compds.; and removing the 1st color electroluminescent layer that is not irradiated.
IT 97-93-8, Triethyl aluminum, reactions 148-24-3, 8-Quinolinol, reactions
(organic electroluminescent device and electronic apparatus)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

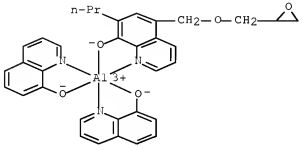
IT 950598-70-6P 950598-71-7P 950598-72-8P
950598-73-9P
(organic electroluminescent device and electronic apparatus)
RN 950598-70-6 HCAPLUS
CN Aluminum, ethylbis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



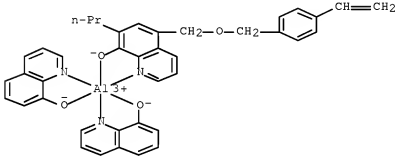
RN 950598-71-7 HCAPLUS
CN Aluminum, [8-(hydroxy-κO)-7-propyl-5-quinolinemethanolato-κN1]bis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



RN 950598-72-8 HCAPLUS
CN Aluminum, [5-[(2-oxiranylmethoxy)methyl]-7-propyl-8-quinolinolato-κN1,κO8]bis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



RN 950598-73-9 HCAPLUS
CN Aluminum, [5-[[(4-ethenylphenyl)methoxy]methyl]-7-propyl-8-quinolinolato-κN1,κO8]bis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 27, 74
ST org electroluminescent device electronic app
IT Electroluminescent devices
(displays; organic electroluminescent device and electronic apparatus)
IT Luminescent screens
(electroluminescent; organic electroluminescent device and electronic apparatus)
IT Coating process
Electric apparatus
Electroluminescent devices
(organic electroluminescent device and electronic apparatus)
IT 64-17-5, Ethanol, reactions 97-93-8, Triethyl aluminum, reactions 98-73-7 100-39-0 100-51-6, Benzylalcohol, reactions 106-38-7 106-89-8, Epichlorohydrin, reactions 108-24-7 108-44-1,

m-Toluidine, reactions 121-43-7, Boric acid trimethyl ester 137-07-5 148-24-3, 8-Quinolinol, reactions 302-01-2, Hydrazine, reactions 507-16-4, Thionyl bromide 612-62-4, 2-Chloroquinoline 873-75-6, 4-Bromobenzylalcohol 1592-20-7, 4-Vinylbenzylchloride 2746-25-0, 4-Methoxybenzylbromide 3001-15-8, 4,4'-Diiodobiphenyl 3006-96-0 3047-32-3 4316-58-9 5029-67-4, 2-Iodopyridine 5798-75-4 7719-09-7, Thionyl chloride 25574-11-2 30525-89-4, Paraformaldehyde 58327-60-9, 7-Propyl-8-quinolinol 59016-93-2 76283-09-5, 4-Bromo-2-fluorobenzylbromide 91251-45-5 951123-25-4
(organic electroluminescent device and electronic apparatus)

IT 537-92-8P 1484-13-5P, N-Vinylcarbazole 1710-98-1P 14996-61-3P 49743-87-5P 69135-05-3P 96411-61-9P 421553-47-1P 433332-03-7P 890844-70-9P 950590-42-8P 950590-43-9P 950590-44-0P 950590-45-1P 950590-46-2DP, reaction products with epichlorohydrin or 4-vinylbenzylchloride 950590-47-3P 950590-49-5P 950590-50-8P 950590-51-9P 950590-52-0P 950590-53-1P 950590-54-2P 950590-57-5P 950590-58-6P 950590-59-7P 950590-61-1P 950590-62-2P 950598-61-5P 950598-62-6P 950598-63-7P 950598-64-8P 950598-65-9P 950598-66-0P 950598-67-1P 950598-68-2P 950598-69-3P 950598-70-6P 950598-71-7P 950598-72-8P 950598-73-9P 951123-28-7P 951123-29-8P 951123-30-1P 951123-31-2P
(organic electroluminescent device and electronic apparatus)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L62 ANSWER 3 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:1056999 HCAPLUS Full-text
DOCUMENT NUMBER: 147:395308
TITLE: Method for manufacturing light emitting element, light emitting device, and electronic apparatus
INVENTOR(S): Takashima, Takeshi; Terao, Koichi; Shinohara, Takashi
PATENT ASSIGNEE(S): Seiko Epson Corporation, Japan
SOURCE: U.S. Pat. Appl. Publ., 37pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070218190	A1	20070920	US 2007-688126 <--	20070319
JP 2007257897	A	20071004	JP 2006-77831 <--	20060320
KR 2007095196	A	20070928	KR 2007-24577 <--	20070313
PRIORITY APPLN. INFO.:			JP 2006-77831 A <--	20060320

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 20 Sep 2007
AB A method for manufacturing a light-emitting element, including: forming a film on one side of a first electrode; obtaining a light-emitting layer in the film by polymerizing a first compound as well as at least one of a second compound and a third compound; and installing a second electrode on a side opposite from the first electrode in the light- emitting layer; wherein: the first

compound is provided with an emissive light-emitting moiety and a first polymerizable group; the second compound is provided with a hole-transporting hole transport moiety and a second polymerizable group; and the third compound is provided with an electron-transporting electron transport moiety and a third polymerizable group.

IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Quinolinol, reactions
(method for manufacturing light-emitting element, light-emitting device, and electronic apparatus)

RN 97-93-8 HCAPLUS

CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

INCL 427066000; 427064000

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST manuf light emitting element device electronic app

IT Electroluminescent devices
(method for manufacturing light-emitting element, light-emitting device, and electronic apparatus)

IT 97-93-8, Triethylaluminum, reactions 98-73-7, p-t-Butylbenzoic acid 100-39-0, Benzyl bromide 106-89-8, Epichlorohydrin, reactions 137-07-5, 2-Aminothiophenol 148-24-3, 8-Quinolinol, reactions 302-01-2, Hydrazine, reactions 507-16-4, Thionyl bromide 612-62-4, 2-Chloroquinoline 873-75-6, 4-Bromobenzyl alcohol 1592-20-7, 4-Vinylbenzyl chloride 2156-04-9, 4-Vinylphenylboronic acid 2746-25-0, 4-Methoxybenzyl bromide 3006-96-0, 4-Hydroxymethylbenzoic acid 3047-32-3, 3-Ethyl-3-hydroxymethyloxetane 5029-67-4, 2-Iodopyridine 5798-75-4, 4-Bromobenzoic acid ethyl ester 7719-09-7, Thionyl chloride 14996-61-3, Iridium trichloride hydrate 30030-25-2 30525-89-4, Paraformaldehyde 58327-60-9, 7-Propyl-8-quinolinol 59016-93-2, 4-(Hydroxymethyl)phenylboronic acid 76283-09-5, 4-Bromo-2-fluorobenzyl bromide
(method for manufacturing light-emitting element, light-emitting device, and electronic apparatus)

IT 1710-98-1P 49743-87-5P 69135-05-3P 96411-61-9P 421553-47-1P 890844-70-9P 950590-42-8P 950590-43-9P 950590-44-0P 950590-45-1P 950590-46-2P 950590-47-3P 950590-49-5P 950590-50-8P 950590-51-9P 950590-52-0P 950590-53-1P 950590-57-5P 950590-59-7P 950598-61-5P 950598-62-6P

950598-64-8P 950598-69-3P 950598-70-6P 950598-71-7P
950598-73-9P
(method for manufacturing light-emitting element, light-emitting device, and electronic apparatus)
IT 950590-48-4P 950590-54-2P 950590-55-3P 950590-56-4P
950590-58-6P 950590-61-1P 950590-62-2P 950598-63-7P
950598-65-9P 950598-66-0P 950598-67-1P 950598-68-2P
950598-72-8P
(method for manufacturing light-emitting element, light-emitting device, and electronic apparatus)
IT 7429-90-5, Aluminum, uses 7440-70-2, Calcium, uses
(method for manufacturing light-emitting element, light-emitting device, and electronic apparatus)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L62 ANSWER 4 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:1178076 HCAPLUS Full-text
DOCUMENT NUMBER: 146:89819
TITLE: Enhanced performance in organic light-emitting diodes with copolymers containing both tris(8-hydroxyquinoline) aluminum and 8-hydroxyquinoline lithium groups
AUTHOR(S): Du, N. Y.; Tian, R. Y.; Peng, J. B.; Mei, Q. B.; Lu, M. G.
CORPORATE SOURCE: Key Laboratory of Polymer Materials for Electronics, Guangdong Guangzhou Institute of Chemistry, Chinese Academy of Sciences, Guangzhou, 510650, Peop. Rep. China
SOURCE: Journal of Applied Polymer Science (2006), 102(5), 4404-4410
CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 09 Nov 2006
AB The authors synthesized novel copolymers containing both tris(8-hydroxyquinoline) Al (Alq3) and 8-hydroxyquinoline Li (Liq) groups as emitting layers for use in conventional two- layer organic light-emitting diodes. The network structure and thermal stability of these materials is described. The optical and electroluminescent properties of the copolymers were also studied. The performance optimization of the devices with the copolymers through the variation of the ratio of Alq3 to Liq is described. A mechanism responsible for the improved electron injection is put forward.
IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions
(enhanced performance in organic light-emitting diodes with copolymers containing both tris(8-hydroxyquinoline) aluminum and 8-hydroxyquinoline lithium groups)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org LED copolymer tris hydroxyquinoline aluminum lithium
IT Electroluminescence
Electroluminescent devices
Glass substrates
Luminescence
Optical absorption
UV and visible spectra
(enhanced performance in organic light-emitting diodes with copolymers containing both tris(8-hydroxyquinoline) aluminum and 8-hydroxyquinoline lithium groups)
IT 50926-11-9, Indium tin oxide 126213-51-2, PEDOT
(enhanced performance in organic light-emitting diodes with copolymers containing both tris(8-hydroxyquinoline) aluminum and 8-hydroxyquinoline lithium groups)
IT 97-93-8, Triethylaluminum, reactions 127-09-3, Sodium acetate 148-24-3, 8-Hydroxyquinoline, reactions 150-76-5, p-Methoxyphenol 868-77-9 1310-65-2, Lithium hydroxide
(enhanced performance in organic light-emitting diodes with copolymers containing both tris(8-hydroxyquinoline) aluminum and 8-hydroxyquinoline lithium groups)
IT 847506-46-1P 851593-62-9P
(enhanced performance in organic light-emitting diodes with copolymers containing both tris(8-hydroxyquinoline) aluminum and 8-hydroxyquinoline lithium groups)
IT 847506-46-1DP, derivs. 851593-62-9DP, derivs.
(enhanced performance in organic light-emitting diodes with copolymers containing both tris(8-hydroxyquinoline) aluminum and 8-hydroxyquinoline lithium groups)
IT 7429-90-5, Aluminum, uses
(enhanced performance in organic light-emitting diodes with copolymers containing both tris(8-hydroxyquinoline) aluminum and 8-hydroxyquinoline lithium groups)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 5 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:717587 HCAPLUS Full-text
DOCUMENT NUMBER: 145:176961
TITLE: Preparation of aluminum tris(8-hydroxyquinoline)/silicon oxide complex luminescent material with improved chemical stability and luminous intensity
INVENTOR(S): Zeng, Hongyu; Shi, Jianlin

PATENT ASSIGNEE(S): Shanghai Institute of Ceramics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp. CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1803971	A	20060719	CN 2005-10112410 <--	20051230
PRIORITY APPLN. INFO.:			CN 2005-10112410 <--	20051230

ED Entered STN: 25 Jul 2006

AB The title luminescent material for organic light emitting diode (OLED) device is prepared by: (1) grafting organic reactive group onto 8-hydroxyquinoline (HQ) for functional modification, (2) dissolving in ethanol, and adding silane coupling agent to obtain a silanized complex (SiHQ), (3) mixing with DMF, adding tetra-Et orthosilicate (TEOS), deionized water, and Al3+ solution, stirring, and drying to obtain the final product, wherein the molar ratio of SiHQ to TEOS is 1:(5-60). The process is simple and can be carried out in solution The obtained material has an emission spectrum within blue light range and has advantages of high luminescent intensity, high chemical stability to water and oxygen, long service life, and low cost.

IT 148-24-3, 8-Hydroxyquinoline, processes 22537-23-1, Aluminum 3+, processes
(preparation of aluminum tris(8-hydroxyquinoline)/silicon oxide complex luminescent material with improved chemical stability and luminous intensity)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

RN 22537-23-1 HCAPLUS
CN Aluminum, ion (Al3+) (CA INDEX NAME)

Al3+

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST aluminum hydroxyquinoline silicon oxide complex luminescent material prepn

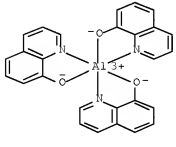
IT Coupling agents
Luminescent substances
(preparation of aluminum tris(8-hydroxyquinoline)/silicon oxide complex

luminescent material with improved chemical stability and luminous intensity)

IT Silanes
(preparation of aluminum tris(8-hydroxyquinoline)/silicon oxide complex luminescent material with improved chemical stability and luminous intensity)

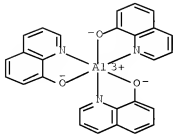
IT 78-10-4, Tetraethyl orthosilicate 148-24-3, 8-Hydroxyquinoline, processes 22537-23-1, Aluminum 3+, processes
(preparation of aluminum tris(8-hydroxyquinoline)/silicon oxide complex luminescent material with improved chemical stability and luminous intensity)

L62 ANSWER 6 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:674276 HCAPLUS Full-text
DOCUMENT NUMBER: 145:301732
TITLE: Design and synthesis of Alq3-functionalized SBA-15 mesoporous material
AUTHOR(S): Wang, Hongsu; Huang, Jiahui; Wu, Shujie; Xu, Chen; Xing, Lihong; Xu, Ling; Kan, Qiubin
CORPORATE SOURCE: Department of Chemistry, Jilin University, Changchun, 130023, Peop. Rep. China
SOURCE: Materials Letters (2006), 60(21-22), 2662-2665
CODEN: MLETDJ; ISSN: 0167-577X
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 13 Jul 2006
AB A luminescent organic mol. aluminum tris(8-hydroxyquinoline) (Alq3) has been successfully introduced in the pores of amino-functionalized mesoporous SBA-15 (APS-SBA-15). An obvious blue-shifted photoluminescence (PL) of Alq3 was observed In the pores of APS-SBA-15, the Alq3 organic mols. exhibited efficient and intense PL as monomers and the emission intensities increased with increasing Alq3 concentration
IT 2085-33-8DP, silane-base
(design and synthesis of Alq3-functionalized SBA-15 mesoporous material)
RN 2085-33-8 HCAPLUS
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



IT 2085-33-8
(design and synthesis of Alq3-functionalized SBA-15 mesoporous material)
RN 2085-33-8 HCAPLUS

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



IT 97-93-8, Triethyl aluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions
(design and synthesis of Alq3-functionalized SBA-15 mesoporous material)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
ST Alq3 functionalized SBA mesoporous material luminescence pore distribution synthesis
IT Luminescent substances
(design and synthesis of Alq3-functionalized SBA-15 mesoporous material)
IT Luminescence
Pore size
Pore size distribution
Surface structure
X-ray diffraction
(of Alq3-functionalized SBA-15 mesoporous material)
IT 2085-33-8DP, silane-base
(design and synthesis of Alq3-functionalized SBA-15 mesoporous material)

IT 2085-33-8
(design and synthesis of Alq3-functionalized SBA-15 mesoporous material)
IT 97-93-8, Triethyl aluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions 919-30-2, 3-Aminopropyltriethoxysilane 2598-30-3, 5-Formyl-8-hydroxyquinoline
(design and synthesis of Alq3-functionalized SBA-15 mesoporous material)
OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 7 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:452762 HCAPLUS Full-text
DOCUMENT NUMBER: 145:104019
TITLE: End-capped polystyrene with 8-hydroxyquinoline group by ATRP method
AUTHOR(S): Liu, Cheng-Mei; Qiu, Jin-Jun; Bao, Rui; Xu, Yan; Cheng, Xiao-Ju; Hu, Fen
CORPORATE SOURCE: Department of Chemistry, Huazhong University of Science and Technology, Wuhan, 430074, Peop. Rep. China
SOURCE: Polymer (2006), 47(9), 2962-2969
CODEN: POLMAG; ISSN: 0032-3861
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 16 May 2006
AB 8-Hydroxyquinoline end-capped polystyrene was prepared through atom transfer free radical polymerization (ATRP) with 8-(5-chloromethyl) quinolyl acetate as initiator. The results indicated that this polymerization is a first order reaction with respect to monomer conversion. The mol. weight increased linearly with monomer consumption and very narrow distribution of mol. weight was obtained (polydispersity index less than 1.2). The FT-IR and NMR results show that the 8-hydroxyquinoline group was chemical bonded to the polymer end and there is nearly one 8-hydroxyquinoline group in per polymer chain. All those data show that polymerization of styrene at such conditions displayed living characters. The polymer with 8-hydroxyquinoline end group reacted with triethylaluminum to form polymeric light- emitting complex and single layer LED was prepared by common spin-coating method. The peak wavelength of LED based on synthesized polymeric complex was around 570 nm.
IT 97-93-8DP, Triethylaluminum, derivative with 8-hydroxyquinoline derivative capped polystyrene
(ATRP kinetics of styrene catalyzed with 8-hydroxyquinoline derivative)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

IT 148-24-3, 8-Hydroxyquinoline, reactions
(in preparation of initiator containing 8-hydroxyquinoline group for ATRP of styrene)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73
ST light emitting coating hydroxyquinoline capped polystyrene ATRP
IT Electroluminescent devices
(LED prepared with end-capped polystyrene containing 8-hydroxyquinoline group)
IT 97-93-8DP, Triethylaluminum, derivative with 8-hydroxyquinoline derivative capped polystyrene
(ATRP kinetics of styrene catalyzed with 8-hydroxyquinoline derivative)
IT 50-00-0, Formaldehyde, reactions 75-36-5, Acetyl chloride 148-24-3, 8-Hydroxyquinoline, reactions 7647-01-0, Hydrogen chloride, reactions
(in preparation of initiator containing 8-hydroxyquinoline group for ATRP of styrene)
OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 8 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:138274 HCAPLUS Full-text
DOCUMENT NUMBER: 144:282934
TITLE: Method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material
INVENTOR(S): Xu, Bingshe; Wang, Hua; Hao, Yuying; Zhou, Hefeng; Li, Jie; Ruan, Limin
PATENT ASSIGNEE(S): Taiyuan University of Technology, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 19 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1597669	A	20050323	CN 2004-10012430 <--	20040719
CN 1283628	C	20061108		
PRIORITY APPLN. INFO.:			CN 2004-10012430 <--	20040719

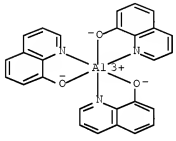
ED Entered STN: 15 Feb 2006

AB The title organic electroluminescent material is prepared from 8-hydroxyquinoline crystal, anhydrous aluminum acetate, anhydrous methanol, acetone, N,N'-dimethyl formamide and pyridine by carrying out reaction under nitrogen protection, washing, filtering, drying, vacuum heating, maintaining the temperature, cooling, purifying by recrystn., and analyzing to obtain the final product. This method has advantages of simple process, plentiful raw materials, high product quality, low manufacturing cost, etc.

IT 2085-33-8P, Alq3
(method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material)

RN 2085-33-8 HCAPLUS

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



IT 139-12-8, Aluminum acetate 148-24-3, 8-Hydroxyquinoline, reactions
(method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material)

RN 139-12-8 HCAPLUS

CN Acetic acid, aluminum salt (3:1) (CA INDEX NAME)

●1/3 Al

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

IC ICM C07D215-24
ICS C07F005-06

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 27
ST aluminum hydroxyquinoline complex blue org electroluminescent material prepn
IT Luminescent substances
(electroluminescent; method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material)
IT Recrystallization
(method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material)
IT 2085-33-8P, Alq3
(method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material)
IT 64-19-7, Acetic acid, formation (nonpreparative)
(method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material)
IT 67-56-1, Methanol, uses 67-64-1, Acetone, uses 68-12-2, uses 110-86-1, Pyridine, uses 7727-37-9, Nitrogen, uses
(method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material)
IT 139-12-8, Aluminum acetate 148-24-3, 8-Hydroxyquinoline, reactions
(method for preparing aluminum 8-hydroxyquinoline complex as blue-light organic electroluminescent material)

L62 ANSWER 9 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:136159 HCAPLUS Full-text
DOCUMENT NUMBER: 144:192599
TITLE: Preparation of monomers and copolymers containing 8-hydroxyquinoline metal complexes
INVENTOR(S): Du, Naiying; Lu, Mangeng; Mei, Qunbo
PATENT ASSIGNEE(S): Guangzhou Institute of Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 13 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1594382	A	20050316	CN 2004-10027706 <--	20040618
CN 1240733	C	20060208		
PRIORITY APPLN. INFO.:			CN 2004-10027706 <--	20040618

ED Entered STN: 14 Feb 2006
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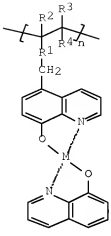

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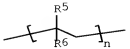


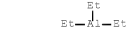
II

AB A linear polymer with a mol. weight of 20000-100000, contains structural unit (I) and (II) at a molar ratio of 1:0.5-200, wherein M is a metal, R1 is C2-18 alkyl, ester, ether or amino, R2, R3, R4, R5 and R6 are selected from H and C1-18 alkyl. This copolymer is prepared by free-radical polymerization of 1 part 8-hydroxyquinoline metal complex containing vinyl monomer with one polymerizable functional group and 1-1000 parts vinyl monomer (e.g., allyl alc., vinylphenyl chloride, acryloyl chloride, styrene, C3-18 unsatd. acid, C3-18 unsatd. ester) in 5-500 parts polar organic solvent (e.g., anhydrous ethanol, THF, toluene, xylene, chloroform, benzene) in the presence of 0.01-0.5 parts free-radical initiator (e.g., BPO, AIBN) at 20-200° for 1-20 h, precipitating with methanol. The polymer may be used as luminescent material in organic electroluminescence flat panel display device and electron transport material. Thus, a luminescent polymer is prepared by copolymg. 60 g 2-hydroxyethyl methacrylate with 10.0 g 8-hydroxyquinoline aluminum complex of Al3+, 2-[(8-hydroxy-5-quinolinyl)methoxy]ethyl methacrylate and 8-hydroxyquinoline.

IT 97-93-8, Triethyl aluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions
(preparation of monomers and copolymers containing 8-hydroxyquinoline metal complexes)

RN 97-93-8 HCAPLUS

CN Aluminum, triethyl- (CA INDEX NAME)



RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

IC ICM C08F226-06
ICS C09K011-06; C08F002-06; C08F004-34
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76
ST hydroxyquinoline aluminum complex prepn; luminescent hydroxyquinoline complex hydroxyethyl methacrylate copolymer
IT Electroluminescent devices
(displays; preparation of monomers and copolymers containing 8-hydroxyquinoline metal complexes)
IT Luminescent screens
(electroluminescent; preparation of monomers and copolymers containing 8-hydroxyquinoline metal complexes)
IT 75-01-4, Vinyl chloride, reactions 97-93-8, Triethyl aluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions 555-31-7, Isopropanol Aluminumsalt 557-34-6, Zinc acetate 868-77-9, 2-Hydroxyethyl methacrylate 920-46-7, Methacrylic chloride 1310-65-2, Lithium hydroxide 1577-22-6, 5-Hexenoic acid 1592-20-7, 4-Vinylbenzylchloride 4053-44-5, 8-Hydroxy-5-Hydroxymethylquinoline 7446-70-0, Aluminum chloride, reactions 7646-85-7, Zinc chloride, reactions 10136-57-9, 5-Chloromethyl-8-Hydroxyquinoline 34825-70-2, 6-Amino-1-hexene 81748-72-3, 5-Aminomethyl-8-Hydroxyquinoline
(preparation of monomers and copolymers containing 8-hydroxyquinoline metal complexes)

L62 ANSWER 10 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:31888 HCAPLUS Full-text
DOCUMENT NUMBER: 144:124548
TITLE: Use of metal complexes for immobilizing target molecules
INVENTOR(S): Muir, Benjamin Ward; Barden, Michael C.; Rylatt, Dennis Brian; Maeji, N. Joe; Hillyard, Carmel Judith; Gorse, Alain-Dominique Jean-Pierre
PATENT ASSIGNEE(S): Bio-Layer Pty. Ltd., Australia
SOURCE: PCT Int. Appl., 118 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006002472	A1	20060112	WO 2005-AU966	20050630
			<--	

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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

AU 2005259833	A1	20060112	AU 2005-259833 <--		20050630
EP 1773866	A1	20070418	EP 2005-756657 <--		20050630
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JP 2008516189	T	20080515	JP 2007-519560 <--		20050630
US 20090209049	A1	20090820	US 2008-571422 <--		20080114
PRIORITY APPLN. INFO.:			US 2004-585261P <--	P	20040702
			US 2005-645053P <--	P	20050118
			WO 2005-AU966 <--	W	20050630

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 13 Jan 2006

AB A method of immobilizing a target mol. on a substrate, which comprises exposing the target mol. to the substrate in the presence of a metal complex, wherein the target mol. is an unmodified target mol., and wherein the metal complex is selected to provide a stable binding interaction between the target mol. and the substrate.

IT 148-24-3D, 8-Hydroxyquinoline, complex ligand
7440-66-6D, Zinc, complexes **10043-01-3**, Alum
(use of metal complexes for immobilizing target mols.)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

RN 7440-66-6 HCAPLUS

CN Zinc (CA INDEX NAME)

Zn

RN 10043-01-3 HCAPLUS

CN Sulfuric acid, aluminum salt (3:2) (CA INDEX NAME)

●2/3 Al

IT 148-24-3, 8-Hydroxyquinoline, reactions 10025-64-6
(use of metal complexes for immobilizing target mols.)
RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

RN 10025-64-6 HCAPLUS
CN Perchloric acid, zinc salt, hydrate (2:1:6) (CA INDEX NAME)

●3 H2O

●1/2 Zn

IC ICM C07K001-22
ICS C07K017-06; G01N033-547
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 1
IT 521-31-3, Luminol
(use of metal complexes for immobilizing target mols.)
IT 64-19-7D, Acetic acid, salts 66-71-7D, 1,10-Phenanthroline, complex ligand 69-72-7D, Salicylic acid, complex ligand 107-15-3D, Ethylenediamine, complex ligand 110-18-9D, complex ligand 142-73-4D, Iminodiacetic acid, complex ligand 144-62-7D, Oxalic acid, complex ligand 148-24-3D, 8-Hydroxyquinoline, complex ligand 7439-89-6D, Iron, complexes 7439-96-5D, Manganese, complexes 7439-98-7D, Molybdenum, complexes 7440-02-0D, Nickel, complexes 7440-06-4D, Platinum, complexes 7440-16-6D, Rhodium, complexes 7440-18-8D, Ruthenium, complexes 7440-20-2D, Scandium, complexes 7440-32-6D, Titanium, complexes 7440-47-3D, Chromium, complexes 7440-48-4D, Cobalt, complexes 7440-50-8D, Copper,

complexes 7440-62-2D, Vanadium, complexes 7440-66-6D, Zinc, complexes 10043-01-3, Alum
(use of metal complexes for immobilizing target mols.)

IT 61-49-4, N-ω-Methyltryptamine 66-71-7, 1,10-Phenanthroline 91-21-4, 1,2,3,4-Tetrahydroisoquinoline 103-67-3, Benzylmethylamine 103-76-4, 1-(2-Hydroxyethyl)piperazine 109-01-3, 1-Methylpiperazine 109-83-1, 2-(Methylamino)ethanol 109-85-3, 2-Methoxyethylamine 110-68-9, N-Methylbutylamine 110-85-0, Piperazine, reactions 110-91-8, Morpholine, reactions 111-42-2, Diethanolamine, reactions 111-92-2, Dibutylamine 111-94-4, 3,3'-Iminodipropionitrile 111-95-5 123-75-1, Pyrrolidine, reactions 123-90-0, Thiomorpholine 124-40-3, Dimethylamine, reactions 139-13-9, Nitrilotriacetic acid 142-25-6, N,N,N'-Trimethylethylenediamine 142-84-7, Dipropylamine 148-24-3, 8-Hydroxyquinoline, reactions 504-78-9, Thiazolidine 589-08-2, N-Methylphenethylamine 603-35-0, Triphenylphosphine, reactions 622-26-4, 4-Piperidineethanol 627-37-2, N-Methylallylamine 693-05-0, N-Methyl-β-alaninenitrile 1066-30-4, Chromium acetate 2439-54-5, N-Methyloctylamine 3490-06-0, N-Methylhomoveratrylamine 4753-75-7, N-Methylfurfurylamine 5638-76-6, 2-(2-Methylaminoethyl)pyridine 7088-89-3 7705-08-0, Iron(III) chloride, reactions 7720-83-4, Titanium(IV) iodide 7789-68-6, Titanium(IV) bromide 10025-64-6 10031-25-1, Chromium bromide 10031-26-2, Iron(III) bromide 10049-08-8, Ruthenium chloride 10101-53-8, Chromium Sulfate 10141-00-1, Chrome alum 10294-46-9 13349-82-1 13446-57-6, Molybdenum(III) bromide 13478-33-6, Cobalt perchlorate hexahydrate 13520-61-1, Nickel perchlorate hexahydrate 13537-21-8, Chromium(III) perchlorate 13548-38-4, Chromium nitrate 13889-98-0, 1-Acetylpiperazine 14014-88-1, Ruthenium tribromide 21359-99-9, Chromium perchlorate 32231-06-4, 1-Piperonylpiperazine 35161-71-8, N-Methylpropargylamine 35794-11-7, 3,5-Dimethylpiperidine 55147-94-9, Chromium perchlorate hexahydrate 207569-11-7 220835-52-9, Platinum iodide 320589-77-3 698999-57-4 873196-27-1 873196-29-3
(use of metal complexes for immobilizing target mols.)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 11 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:1216411 HCAPLUS Full-text

DOCUMENT NUMBER: 143:471965

TITLE: Process to make metal complexes with volatile liquid metal compounds

INVENTOR(S): Boone, James E.; Prindle, John C.

PATENT ASSIGNEE(S): Albemarle Corporation, USA

SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005108372	A1	20051117	WO 2004-US10505 <--	20040405

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,

CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: WO 2004-US10505 20040405
<--

OTHER SOURCE(S): CASREACT 143:471965; MARPAT 143:471965

ED Entered STN: 17 Nov 2005

AB Processes for making metal complexes that are useful in organic light emitting devices (OLEDs) involve reacting a volatile liquid metal compound with a compound that has at least one hydroxyl (OH) group, such as 8-hydroxyquinoline. Exemplary volatile liquid metal compds. include trimethylaluminum, triethylaluminum, triisobutylaluminum, diisobutylaluminum hydride, dimethylaluminum chloride, and diethylaluminum chloride. One useful metal complex that can be produced is tris(8-hydroxyquinolinato)aluminum (Alq3) via reaction of Et3Al and 8-hydroxyquinoline in toluene at 0-40°.

IT 75-24-1, Trimethylaluminum 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions 148-24-3D, 8-Quinolinol, substituted derivs.
(preparation of tris(hydroxyquinolinato)aluminum and related metal complexes of hydroxy-containing ligands via volatile liquid metal compound precursors)

RN 75-24-1 HCAPLUS

CN Aluminum, trimethyl- (CA INDEX NAME)

RN 97-93-8 HCAPLUS

CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

IC ICM C07D215-40
ICS C09K011-06; C07F005-06
CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 29, 73
IT Electroluminescent devices
Volatile substances
(preparation of tris(hydroxyquinolinato)aluminum and related metal complexes of hydroxy-containing ligands via volatile liquid metal compound precursors)
IT 75-24-1, Trimethylaluminum 96-10-6, Diethylaluminum chloride, reactions 97-93-8, Triethylaluminum, reactions 100-99-2, Triisobutylaluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions 148-24-3D, 8-Quinolinol, substituted derivs. 557-20-0, Diethylzinc 865-37-2, Dimethylaluminum hydride 871-27-2, Diethylaluminum hydride 1184-58-3, Dimethylaluminum chloride 1191-15-7, Diisobutylaluminum hydride 12075-68-2, Ethylaluminum sesquichloride 12542-85-7, Methylaluminum sesquichloride 18123-20-1, 4-Hydroxyacridine 71651-78-0, 3-(2-Benzothiazolyl)-4-hydroxy-2H-1-benzopyran-2-one
(preparation of tris(hydroxyquinolinato)aluminum and related metal complexes of hydroxy-containing ligands via volatile liquid metal compound precursors)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

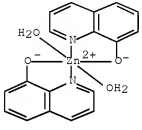
L62 ANSWER 12 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:1053853 HCAPLUS Full-text
DOCUMENT NUMBER: 144:29041
TITLE: The effects of crystal structure on optical absorption/photoluminescence of bis(8-hydroxyquinoline)zinc
AUTHOR(S): Xu, Bing-she; Hao, Yu-ying; Wang, Hua; Zhou, He-feng; Liu, Xu-guang; Chen, Ming-wei
CORPORATE SOURCE: College of Materials Science and Engineering, Taiyuan University of Technology, Shanxi, 030024, Peop. Rep. China
SOURCE: Solid State Communications (2005), 136(6), 318-322
CODEN: SSCOA4; ISSN: 0038-1098
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Oct 2005
AB The transformation processes of 2 types of bis(8-hydroxyquinolinato)zinc: Znq2(H2O)2 and anhydrous (Znq2)4 were studied by XRD, UV spectra, SEM, DSC,

and TG. The effects of crystal structure on optical properties of bis(8-hydroxyquinoiline)zinc were analyzed. Znq2(H2O)2 can be transformed into anhydrous (Znq2)4 during heating under vacuum. Reversal transformation occurs by the interaction between CHCl3 and (Znq2)4. But (Znq2)4 was partially transformed into Znq2 dihydrate by the interaction between EtOH and (Znq2)4. The different mol. structure results in different crystal stacking and electronic structure, thereby affect its optical properties.

IT 15279-82-0P, DiaquaBis(8-hydroxyquinolinato)zinc
(preparation and crystal structure effects on optical absorption/luminescence and thermal decomposition of)

RN 15279-82-0 HCAPLUS

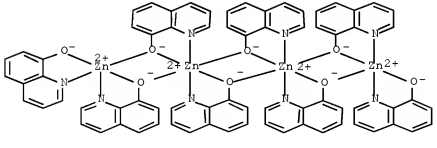
CN Zinc, diaquabis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



IT 97477-20-8P
(preparation and crystal structure effects on optical absorption/luminescence of)

RN 97477-20-8 HCAPLUS

CN Zinc, hexakis[μ-(8-quinolinolato-κN1,κO8:κO8)]bis(8-quinolinolato-κN1,κO8)tetra-, stereoisomer (9CI) (CA INDEX NAME)



IT 148-24-3, 8-Hydroxyquinoline, processes
(reaction with zinc sulfate in presence of triethylamine)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

CC 73-4 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 75, 78
ST zinc hydroxyquinoline hydrate anhyd tetramer crystal structure luminescence UV
IT Crystal structure-property relationship
(luminescence; of zinc hydroxyquinolinato complex monomer dihydrate and anhydrous tetramer)
IT 15279-52-0P, DiaquaBis(8-hydroxyquinolinato)zinc
(preparation and crystal structure effects on optical absorption/luminescence and thermal decomposition of)
IT 97477-20-8P
(preparation and crystal structure effects on optical absorption/luminescence of)
IT 148-24-3, 8-Hydroxyquinoline, processes
(reaction with zinc sulfate in presence of triethylamine)
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 13 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:654922 HCAPLUS Full-text
DOCUMENT NUMBER: 143:306883
TITLE: Poly(styrene)-Supported Alq3 and BPh2q
AUTHOR(S): Wang, Xian-Yong; Weck, Marcus
CORPORATE SOURCE: School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, 30332-0400, USA
SOURCE: Macromolecules (2005), 38(17), 7219-7224
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 28 Jul 2005
AB We describe the synthesis of 8-hydroxyquinoline-tethered poly(styrene)s as modular precursors for functionalization with metalloquinolates to form either tris(8-hydroxyquinoline)aluminum (Alq3) or 8-hydroxyquinoline biphenylboron (BPh2q) pendant polymers. All polymers, both in solution and in the solid state, show similar luminescent properties as their corresponding reference compds. Alq3 and BPh2q while retaining excellent solution-processing properties. These results clearly indicate that the poly(styrene) backbone does not interfere with the photophys. properties of the pendant Alq3 and BPh2q chromophores but endows solution processability to the materials.
IT 97-93-8DP, Triethylaluminum, reaction products (chloromethyl)styrene-styrene copolymer derivs. and hydroxyquinoline
148-24-3DP, 8-Hydroxyquinoline, reaction products (chloromethyl)styrene-styrene copolymer derivs. and triethylaluminum
(preparation and properties of poly(styrene)-supported tris(hydroxyquinoline)aluminum and hydroxyquinoline biphenylboron pendant polymers)

RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 73
IT Chromophores
Luminescence
(preparation and properties of poly(styrene)-supported tris(hydroxyquinoline)aluminum and hydroxyquinoline biphenylboron pendant polymers)
IT 97-93-8DP, Triethylaluminum, reaction products (chloromethyl)styrene-styrene copolymer derivs. and hydroxyquinoline 148-24-3DP, 8-Hydroxyquinoline, reaction products (chloromethyl)styrene-styrene copolymer derivs. and triethylaluminum 960-71-4DP, Triphenylboron, reaction products (chloromethyl)styrene-styrene copolymer derivs. 1074-82-4DP, Potassium phthalimide, reaction products with (chloromethyl)styrene-styrene copolymer and formylhydroxyquinoline, hydrogenated, reaction products with triphenylboron or hydroxyquinoline and triethylaluminum 2598-30-3DP, 5-Formyl-8-hydroxyquinoline, reaction products with (chloromethyl)styrene-styrene copolymer and potassium phthalimide, hydrogenated, reaction products with triphenylboron or hydroxyquinoline and triethylaluminum 29464-22-0DP, p-(Chloromethyl)styrene-styrene copolymer, reaction products with potassium phthalimide and formylhydroxyquinoline, hydrogenated, reaction products with triphenylboron or hydroxyquinoline and triethylaluminum
(preparation and properties of poly(styrene)-supported tris(hydroxyquinoline)aluminum and hydroxyquinoline biphenylboron pendant polymers)
OS.CITING REF COUNT: 33 THERE ARE 33 CAPLUS RECORDS THAT CITE THIS RECORD (33 CITINGS)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 14 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:426178 HCAPLUS Full-text
DOCUMENT NUMBER: 142:454113

TITLE: Organic electroluminescent devices having a stability-enhancing layer
INVENTOR(S): Liao, Liang-Sheng; Klubek, Kevin P.
PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050104511	A1	20050519	US 2003-713523 <--	20031114
US 7138763	B2	20061121		
WO 2005050753	A2	20050602	WO 2004-US35918 <--	20041029
WO 2005050753	A3	20050728		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-713523 A 20031114 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 19 May 2005

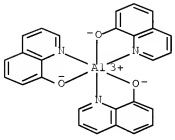
AB An organic light-emitting device with enhanced operational stability comprising an anode; a hole-transporting layer disposed over the anode; a light-emitting layer disposed over the hole-transporting layer for producing light in response to hole-electron recombination, wherein the light-emitting layer includes at least one organic host material and one organic luminescent dopant material; a stability-enhancing layer disposed in contact with the light-emitting layer, wherein the stability-enhancing layer includes at least one organic host material and one inorg. dopant material; an electron-transporting layer disposed over the stability-enhancing layer; and a cathode disposed over the electron-transporting layer.

IT 148-24-3D, 8-Hydroxyquinoline, complexes 2085-33-8, Alq3 7429-90-5, Aluminum, properties 7440-55-3, Gallium, properties 7440-66-6, Zinc, properties
(organic electroluminescent devices having stability-enhancing layer)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

RN 2085-33-8 HCAPLUS
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



RN 7429-90-5 HCAPLUS
CN Aluminum (CA INDEX NAME)

Al

RN 7440-55-3 HCAPLUS
CN Gallium (CA INDEX NAME)

Ga

RN 7440-66-6 HCAPLUS
CN Zinc (CA INDEX NAME)

Zn

IC ICM H05B033-00
ICS H05B033-14; H05B033-22
INCL 313504000; 313503000; 313506000
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
ST org electroluminescent device stability enhancing layer
IT Electroluminescent devices
(displays; organic electroluminescent devices having stability-enhancing layer)
IT Luminescent screens
(electroluminescent; organic electroluminescent devices having stability-enhancing

layer)
IT Electroluminescent devices
(organic electroluminescent devices having stability-enhancing layer)
IT Alkali metals, properties
Alkaline earth metals
Fluoropolymers, properties
Metals, properties
Rare earth metals, properties
Transition metals, properties
(organic electroluminescent devices having stability-enhancing layer)
IT 148-24-3D, 8-Hydroxyquinoline, complexes 1662-01-7, Bphen
2085-33-8, Alq3 7429-90-5, Aluminum, properties
7429-91-6, Dysprosium, properties 7439-91-0, Lanthanum, properties
7439-93-2, Lithium, properties 7439-94-3, Lutetium, properties
7439-95-4, Magnesium, properties 7439-96-5, Manganese, properties
7439-98-7, Molybdenum, properties 7440-00-8, Neodymium, properties
7440-02-0, Nickel, properties 7440-05-3, Palladium, properties
7440-06-4, Platinum, properties 7440-09-7, Potassium, properties
7440-10-0, Praseodymium, properties 7440-17-7, Rubidium, properties
7440-19-9, Samarium, properties 7440-22-4, Silver, properties
7440-23-5, Sodium, properties 7440-24-6, Strontium, properties
7440-27-9, Terbium, properties 7440-30-4, Thulium, properties
7440-31-5, Tin, properties 7440-39-3, Barium, properties
7440-45-1, Cerium, properties 7440-46-2, Cesium, properties
7440-50-8, Copper, properties 7440-52-0, Erbium, properties
7440-53-1, Europium, properties 7440-54-2, Gadolinium, properties
7440-55-3, Gallium, properties 7440-57-5, Gold, properties
7440-64-4, Ytterbium, properties 7440-65-5, Yttrium, properties
7440-66-6, Zinc, properties 7440-70-2, Calcium, properties
7440-74-6, Indium, properties 50926-11-9, Indium tin oxide
80663-92-9 123847-85-8, Npb 274905-73-6
(organic electroluminescent devices having stability-enhancing layer)
OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 15 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:345979 HCAPLUS Full-text
DOCUMENT NUMBER: 142:381971
TITLE: Organic electroluminescent devices employing an organometallic complex-containing layer adjacent to a reducing metal and fabrication process of electroluminescent devices
INVENTOR(S): Kido, Junji; Matsumoto, Toshio; Nakada, Takeshi; Kawamura, Norifumi
PATENT ASSIGNEE(S): International Manufacturing and Engineering Services Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 33 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 1524707	A2	20050420	EP 2004-24611 <--	20041015
EP 1524707	A3	20060426		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2005123094	A	20050512	JP 2003-358401 <--	20031017
CN 1610473	A	20050427	CN 2004-10080504 <--	20040930
US 20050084713	A1	20050421	US 2004-966708 <--	20041015
KR 2005037400	A	20050421	KR 2004-83343 <--	20041018
KR 858106	B1	20080910		

PRIORITY APPLN. INFO.: JP 2003-358401 A 20031017 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 22 Apr 2005

AB Organic electroluminescent devices are described which comprise a substrate, an anode layer; an organic structure including at least one light-emissive layer; a low resistance electron-transporting layer including a mixed layer of an electron-donating metal dopant and an organic compound; an organometallic complex-containing layer including an organometallic complex compound containing at least one metal ion selected from an alkaline metal ion, an alkaline earth metal ion and a rare earth metal ion; a reducing reaction generating layer; and a cathode layer, in that order. At least one of the anode layer and the cathode layer is transparent. The reducing reaction generating layer is a layer produced by depositing on the organometallic complex-containing layer a thermally reducible metal capable of reducing the metal ion in the organometallic complex compound in a vacuum to the corresponding metal, followed by causing an oxidation-reduction reaction between them.

IT 25387-93-3
(organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

RN 25387-93-3 HCAPLUS

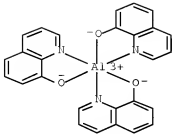
CN 8-Quinolinol, lithium salt (1:1) (CA INDEX NAME)

● Li

IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato)
(organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

RN 2085-33-8 HCAPLUS

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



IT 7429-90-5, Aluminum, uses
(thermally reducible metal; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)
RN 7429-90-5 HCAPLUS
CN Aluminum (CA INDEX NAME)

Al

IC ICM H01L051-20
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
ST OLED organometallic complex reducing metal fabrication; org electroluminescent device organometallic complex reducing metal manuf
IT Organometallic compounds
(alkaline earth compds.; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)
IT Organometallic compounds
(alkali metal compds.; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)
IT Sputtering
(cathode deposition by; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)
IT Vapor deposition process
(electron-beam, thermally reducible metal deposition by; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)
IT Vapor deposition process
(laser ablation, thermally reducible metal deposition by; organic electroluminescent devices employing organometallic

complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT Electroluminescent devices
Semiconductor device fabrication
(organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT Coordination compounds
Organometallic compounds
(organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT Alkali metals, uses
Alkaline earth metals
Rare earth metals, uses
(organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal resulting in formation of)

IT Alkali metal compounds
Alkaline earth compounds
Rare earth compounds
(organometallic compds.; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT Organometallic compounds
(rare earth compds.; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT Vapor deposition process
(resistive heating; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT Reduction
(thermal; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT 50926-11-9, Indium tin oxide
(electrode; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT 123847-85-8, α-NPD
(hole-transporting layer; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

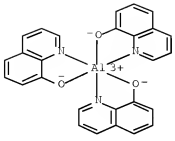
IT 25387-93-3
(organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 4733-39-5, Bathocuproine 7440-46-2, Cesium, uses
(organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)

IT 7439-93-2P, Lithium, uses
(organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication

process of electroluminescent devices)
IT 7429-90-5, Aluminum, uses
(thermally reducible metal; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)
IT 7440-21-3, Silicon, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-67-7, Zirconium, uses
(thermally reducible metal; organic electroluminescent devices employing organometallic complex-containing layer adjacent to reducing metal and fabrication process of electroluminescent devices)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 16 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:119243 HCAPLUS Full-text
DOCUMENT NUMBER: 142:373950
TITLE: Synthesis, Characterization, and Photophysical Properties of Iridium Complexes with an 8-Phenylquinoline Framework. The First Six-Membered Chelated Iridium Complexes for Electroluminance
AUTHOR(S): Li, Hao-Chun; Chou, Pi-Tai; Hu, Ya-Hui; Cheng, Yi-Ming; Liu, Rai-Shung
CORPORATE SOURCE: Department of Chemistry, National Tsing-Hua University, Hsinchu, Taiwan
SOURCE: Organometallics (2005), 24(6), 1329-1335
CODEN: ORGND7; ISSN: 0276-7333
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:373950
ED Entered STN: 11 Feb 2005
AB Six-membered chelated Ir complexes bearing an 8-phenylquinoline framework were prepared and characterized with an x-ray diffraction study. The photophys. properties of these complexes were examined with appropriate spectroscopic methods. The results, in combination with ab initio approaches, led the authors to clearly assign various electronic transition states. One salient feature for these red complexes is the appearance of a dual strong absorption band around 425-500 nm, which incorporates a state mixing between 1MLCT and π-π* manifolds. These complexes show deep red phosphorescent emissions (650-680 nm), with short lifetimes of 1.7-3.0 μs and moderate quantum yields of 0.05-0.11 in deaerated MeCN. The electroluminance performance of these species shows a promising perspective in the OLED display. One representative, Ir[8-(3,5-difluorophenyl)quinoline]2(acac) (4c), shows an ηext value of 2.04% at J = 20 mA/cm2 and the maximum brightness is 3427 cd/m2 (x = 0.68, y = 0.32) with a full width at half-maximum of only 60 nm at 16 V, demonstrating the 1st six-membered chelated Ir complexes to suit applications in OLED devices.
IT 2085-33-8, Tris(8-hydroxyquinoline)aluminum
(preparation and photophys. properties of cyclometalated iridium complexes with phenylquinoline framework and six-membered chelated ring with acetylacetonate)
RN 2085-33-8 HCAPLUS
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



IT 148-24-3, 8-Hydroxyquinoline, reactions
(preparation and photophys. properties of cyclometalated iridium complexes with phenylquinoline framework and six-membered chelated ring with acetylacetonate)
RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, 73, 74, 75
ST iridium phenylquinoline cyclometalated prepn photophys electroluminance; crystal structure iridium cyclometalated phenylquinoline fluoro prepn; mol structure iridium cyclometalated phenylquinoline fluoro
IT Electroluminescent devices
(organic LEDs; preparation and photophys. properties of cyclometalated iridium complexes with phenylquinoline framework and six-membered chelated ring with acetylacetonate)
IT 2085-33-8, Tris(8-hydroxyquinoline)aluminum 4733-39-5, Bathocuproine 50926-11-9, ITO 58328-31-7 123847-85-8
(preparation and photophys. properties of cyclometalated iridium complexes with phenylquinoline framework and six-membered chelated ring with acetylacetonate)
IT 123-54-6, Acetylacetone, reactions 148-24-3, 8-Hydroxyquinoline, reactions
(preparation and photophys. properties of cyclometalated iridium complexes with phenylquinoline framework and six-membered chelated ring with acetylacetonate)
OS.CITING REF COUNT: 35 THERE ARE 35 CAPLUS RECORDS THAT CITE THIS RECORD (35 CITINGS)
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 17 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:54153 HCAPLUS Full-text
DOCUMENT NUMBER: 142:280485

TITLE: Synthesis and photophysical characterization of the free-radical copolymerization of metaloquinolate-pendant monomers with methyl methacrylate

AUTHOR(S): Du, Naiying; Tian, Renyu; Peng, Junbiao; Lu, Mangeng

CORPORATE SOURCE: Key Laboratory of Polymer Materials for Electronics, Guangdong Guangzhou Institute of Chemistry, Chinese Academy of Sciences, Guangzhou, 510650, Peop. Rep. China

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2004), Volume Date 2005, 43(2), 397-406
CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 20 Jan 2005

AB A series of novel metaloquinolate [aluminum quinolate (Alq3), zinc quinolate (Znq2), and lithium quinolate (Liq)]-containing copolymers were prepared This is the first report of the synthesis of metaloquinolate-containing polymers by free-radical copolymn. The structures of the metaloquinolate monomers and copolymers were characterized by 1H NMR and Fourier-transform IR techniques. The differential scanning calorimetry and thermogravimetric anal. results showed that the copolymers were more thermally stable than the Me methacrylate homopolymer. The copolymers (<25 weight % Alq3, <20 weight % Znq2, or <15 weight % Liq) could be dissolved in common solvents without crosslinking. The UV-visible absorption and photoluminescence (PL) emission properties of the copolymers were consistent with the literature data of metaloquinolate complexes. The PL efficiencies of the metaloquinolate-containing copolymers with 25 weight % Alq3, 20 weight % Znq2, or 15 weight % Liq were 19.89, 13.24, and 11.82%, resp. The exptl. results indicated that these kinds of materials could be used for practical applications in organic light-emitting diodes.

IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Quinolinol, reactions
(in synthesis of hydroxyquinoline metal chelates for free-radical polymerization with Me methacrylate)

RN 97-93-8 HCAPLUS

CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

CC 35-4 (Chemistry of Synthetic High Polymers)
ST metaloquinolate contg monomer radical polymn methyl methacrylate; zinc quinolate contg polymethacrylate prepn property; aluminum quinolate contg polymethacrylate prepn property; lithium quinolate contg polymethacrylate prepn property; light emitting diode metaloquinolate contg polymethacrylate
IT Electroluminescent devices
(synthesis and photophys. characterization of copolymers of metaloquinolate-pendant monomers and Me methacrylate for use in)
IT Glass transition temperature
Luminescence
Molecular weight
Polydispersity
Solubility
Thermal stability
UV and visible spectra
(synthesis and photophys. characterization of free-radical copolymn. of metaloquinolate-pendant monomers with Me methacrylate)
IT 50-00-0, Formaldehyde, reactions 97-93-8, Triethylaluminum, reactions 123-31-9, Hydroquinol, reactions 148-24-3, 8-Quinolinol, reactions 557-20-0, Diethylzinc 868-77-9, 2-Hydroxyethyl methacrylate 1310-65-2, Lithium hydroxide
(in synthesis of hydroxyquinoline metal chelates for free-radical polymerization with Me methacrylate)
OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 18 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2004:1080334 HCAPLUS Full-text
DOCUMENT NUMBER: 142:47531
TITLE: Method of reducing photoelectric device leakage current in conjugated polymer, and conjugated polymer composition
INVENTOR(S): Chen, Kuo-Yu; Tuan, Chi-Shen; Teng, Wan-Jung; Chang, Shinn-Jen
PATENT ASSIGNEE(S): Industrial Technology Research Institute, Taiwan
SOURCE: U.S. Pat. Appl. Publ., 17 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040250849	A1	20041216	US 2003-633708 <--	20030805
US 7026275	B2	20060411		
TW 255832	B	20060601	TW 2003-92115804 <--	20030611
PRIORITY APPLN. INFO.:			TW 2003-92115804 A <--	20030611

ED Entered STN: 17 Dec 2004
AB A method of reducing the photoelec. device leakage current caused by residual metal ions in conjugated polymer. A chelating agent is added to a conjugated polymer material, thereby the conductivity and mobility of metal ions under an elec. field are reduced due to the chelation of metal ions by the chelating

agent; therefore, the leakage current is reduced and the stability of devices is improved. Also, the activity of metal ions is reduced after the metal ions are chelated by the chelating agent, improving the stability of the material and the devices. A conjugated polymer composition is also provided.

IT 148-24-3, 8-Hydroxyquinoline, processes
(chelating agent; fabricating method of reducing photoelec. device leakage current in conjugated polymer by addition of chelating agents and conjugated polymer composition)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

IT 7429-90-5, Aluminum, uses
(contact; fabricating method of reducing photoelec. device leakage current in conjugated polymer by addition of chelating agents and conjugated polymer composition)

RN 7429-90-5 HCAPLUS

CN Aluminum (CA INDEX NAME)

Al

IC ICM H01L021-00

INCL 136263000; 438149000; 438151000; 438057000; 438059000; 438463000

CC 76-5 (Electric Phenomena)
Section cross-reference(s): 38, 48, 52, 74

IT Capacitors
Chelating agents
Electroluminescent devices
Gettering
Inductors
Lasers
Memory devices
Photoelectric devices
Resistors
Solar cells
Solvents
Transistors
(fabricating method of reducing photoelec. device leakage current in conjugated polymer by addition of chelating agents and conjugated polymer composition)

IT 94-93-9, N,N'-Bis(salicylidene)ethylenediamine 148-24-3, 8-Hydroxyquinoline, processes
(chelating agent; fabricating method of reducing photoelec. device leakage current in conjugated polymer by addition of chelating agents and conjugated polymer composition)

IT 7429-90-5, Aluminum, uses 7440-70-2, Calcium, uses
(contact; fabricating method of reducing photoelec. device leakage

current in conjugated polymer by addition of chelating agents and conjugated polymer composition)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 19 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:1059398 HCAPLUS Full-text

DOCUMENT NUMBER: 142:24413

TITLE: Luminescent organic-polymer/metal complex for wet processable films and process for producing thereof

INVENTOR(S): Kudo, Kazuaki; Kobayashi, Yasushi; Takayama, Toshio; Sano, Hiroshi

PATENT ASSIGNEE(S): Nippon Light Metal Company, Ltd., Japan

SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004106389	A1	20041209	WO 2004-JP7904 <--	20040601
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005015752	A	20050120	JP 2003-311117 <--	20030903
JP 4295047	B2	20090715		
EP 1637545	A1	20060322	EP 2004-735677 <--	20040601
EP 1637545	B1	20091111		
R: DE, GB				
CN 1798776	A	20060705	CN 2004-80014974 <--	20040601
CN 100503655	C	20090624		
US 20060128940	A1	20060615	US 2005-559129 <--	20051201

PRIORITY APPLN. INFO.:

JP 2003-156790	A	20030602
JP 2003-311117	A	20030903
WO 2004-JP7904	W	20040601

<-- <-- <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 10 Dec 2004

AB The present invention relates to a luminescent org .-polymer/metal complex polyQ·M·Kn-1 obtained by reacting a polymer ligand (polyQ) comprising a polymer and a side chain 8-hydroxyquinoline derivative through a spacer group, a 8-hydroxyquinoline derivative ligand (K), and a di- to tetravalent metal ion (Mn+), wherein the 8-hydroxyquinoline derivative ligand has a bulky substituent. Also provided is a luminescent org .-polymer/metal complex composition comprising the luminescent organic-polymer/metal complex and a low-mol. ligand. Thus, 26.2 g 8-hydroxyquinoline and hydro chloride were reacted in the presence of formaldehyde, 2-hydroxyethyl methacrylate was added therein and reacted to give 2-ethoxy methacrylate-substituted 8-hydroxyquinoline, 7.00 g of which was polymerized in the presence of 321 mg AIBN to give a polymer ligand, 800 mg of which was mixed with 6.64 g 7-(4-ethyl-1-methyloctyl)-8-hydroxyquinoline and reacted with 8.4 mmol trimethylaluminum to give a aluminum complex mixture showing luminescence at 400 nm (excitation at 533 nm) for both in solution and in film.

IT 148-24-3, 8-Hydroxyquinoline, reactions
(reactant in polymer ligand preparation; preparation of luminescent organic-polymer/metal complexes for wet processable films)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

IT 75-24-1, Trimethylaluminum
(reactant in polymer ligand-metal complex preparation; preparation of luminescent organic-polymer/metal complexes for wet processable films)

RN 75-24-1 HCAPLUS

CN Aluminum, trimethyl- (CA INDEX NAME)

IC ICM C08F008-42
ICS C08F020-36; C09K011-06; H05B033-14

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73

ST luminescent org polymer metal complex wet processable film process; hydroxyquinoline hydro chloride formaldehyde reactant; aluminum polymeric ligand complex prepn

IT Coordination compounds
(polymer ligand-; preparation of luminescent org .-polymer/metal complexes for wet processable films)

IT Ligands
(polymeric; preparation of luminescent org .-polymer/metal complexes for wet processable films)

IT Luminescent substances

(preparation of luminescent organic-polymer/metal complexes for wet processable films)
IT 4053-45-6P 745782-29-0P 745782-35-8P 745782-37-0P
(intermediate in polymer ligand preparation; preparation of luminescent organic-polymer/metal complexes for wet processable films)
IT 84953-68-4
(ligand; preparation of luminescent org .-polymer/metal complexes for wet processable films)
IT 95831-48-4P 745782-31-4P
(monomer in polymer ligand preparation; preparation of luminescent organic-polymer/metal complexes for wet processable films)
IT 745782-32-5P 802985-76-8P
(polymer ligand; preparation of luminescent org .-polymer/metal complexes for wet processable films)
IT 7429-90-5DP, Aluminum, polymer complexes 73545-11-6DP, aluminum complexes 745782-32-5DP, aluminum complexes 802985-76-8DP, aluminum complexes
(preparation of luminescent organic-polymer/metal complexes for wet processable films)
IT 18162-48-6, tert-Butyldimethylsilyl chloride
(protecting group in polymer ligand preparation; preparation of luminescent organic-polymer/metal complexes for wet processable films)
IT 50-00-0, Formaldehyde, reactions 148-24-3, 8-Hydroxyquinoline, reactions 868-77-9, 2-Hydroxyethyl methacrylate 7647-01-0, Hydrochloric acid, reactions 73545-11-6
(reactant in polymer ligand preparation; preparation of luminescent organic-polymer/metal complexes for wet processable films)
IT 75-24-1, Trimethylaluminum 555-31-7, Triisopropoxyaluminum
(reactant in polymer ligand-metal complex preparation; preparation of luminescent organic-polymer/metal complexes for wet processable films)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

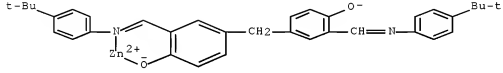
L62 ANSWER 20 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2004:1037594 HCAPLUS Full-text
DOCUMENT NUMBER: 142:206760
TITLE: Self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices
AUTHOR(S): Kwok, Chi-Chung; Yu, Sze-Chit; Sham, Iona H. T.; Che, Chi-Ming
CORPORATE SOURCE: Department of Chemistry and the HKU-CAS Joint Laboratory on New Materials, The University of Hong Kong, Hong Kong, Peop. Rep. China
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2004), (23), 2758-2759
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:206760
ED Entered STN: 03 Dec 2004
AB Thermally stable zinc(II) Schiff base polymers (decomposition temperature up to 461°; Mn = 13580 to 20440) formed by self-assembly reactions of zinc(II)

salts and salicylaldimine monomers exhibit blue to yellow PL with quantum yields up to 0.34 in DMF; PLEDs employing these polymers as emitters give green or orange EL with turn-on voltage at 5 and 6 V and maximum efficiency of 2.0 and 2.6 cd A-1 resp.

IT 837411-92-4P 837411-96-8P
(polymeric; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)

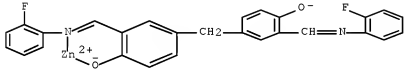
RN 837411-92-4 HCAPLUS

CN Zinc, [2-[[[4-(1,1-dimethylethyl)phenyl]imino-κN]methyl]-4-[[3-[[[4-(1,1-dimethylethyl)phenyl]imino]methyl]-4-hydroxyphenyl]methyl]phenolato(2-)-κO]- (CA INDEX NAME)



RN 837411-96-8 HCAPLUS

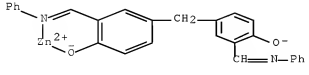
CN Zinc, [2-[[(2-fluorophenyl)imino-κN]methyl]-4-[[3-[[(2-fluorophenyl)imino]methyl]-4-hydroxyphenyl]methyl]phenolato(2-)-κO]- (CA INDEX NAME)



IT 75785-68-1P 837411-91-3P
(polymeric; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)

RN 75785-68-1 HCAPLUS

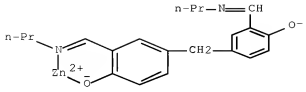
CN Zinc, [4-[[4-hydroxy-3-[(phenylimino)methyl]phenyl]methyl]-2-[(phenylimino-κN)methyl]phenolato(2-)-κO]- (CA INDEX NAME)



RN 837411-91-3 HCAPLUS

CN Zinc, [4-[[4-hydroxy-3-[(propylimino)methyl]phenyl]methyl]-2-[(propylimino-κN)methyl]phenolato(2-)-κO]- (CA INDEX

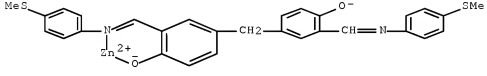
NAME)



IT 837411-93-5P 837411-94-6P 837411-95-7P
837411-97-9P
(polymeric; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)

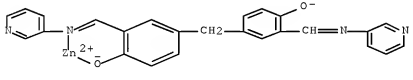
RN 837411-93-5 HCAPLUS

CN Zinc, [4-[[4-hydroxy-3-[[[4-(methylthio)phenyl]imino]methyl]phenyl]methyl]-2-[[[4-(methylthio)phenyl]imino-κN]methyl]phenolato(2-)-κO]- (CA INDEX NAME)



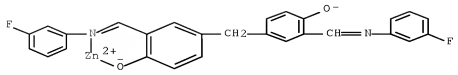
RN 837411-94-6 HCAPLUS

CN Zinc, [4-[[4-hydroxy-3-[(3-pyridinylimino)methyl]phenyl]methyl]-2-[(3-pyridinylimino-κN)methyl]phenolato(2-)-κO]- (CA INDEX NAME)

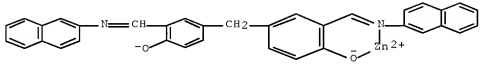


RN 837411-95-7 HCAPLUS

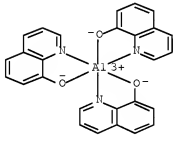
CN Zinc, [2-[[(3-fluorophenyl)imino-κN]methyl]-4-[[3-[[(3-fluorophenyl)imino]methyl]-4-hydroxyphenyl]methyl]phenolato(2-)-κO]- (CA INDEX NAME)



RN 837411-97-9 HCAPLUS
CN Zinc, [4-[[4-hydroxy-3-[(2-naphthalenylimino)methyl]phenyl]methyl]-2-[(2-naphthalenylimino-κN)methyl]phenolato(2-)-κO]- (CA INDEX NAME)



IT 2085-33-8, Alq3
(self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices containing)
RN 2085-33-8 HCAPLUS
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36, 38, 76
ST self assembled zinc Schiff base polymer electroluminescent device photoluminescence
IT Polymers
(Schiff base-containing, zinc; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT Luminescence, electroluminescence
Surface structure
Thermal stability
(of self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)

IT Electroluminescent devices
(polymer; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT Electric current-potential relationship
Self-assembly
(self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT Luminescence
(visible; of self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT 9003-53-6D, sulfonated
(dopant for PEDOT; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices containing)
IT 126213-51-2
(doped with PSS; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices containing)
IT 837411-92-4P 837411-96-8P
(polymeric; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT 75785-68-1P 837411-91-3P
(polymeric; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT 837411-93-5P 837411-94-6P 837411-95-7P
837411-97-9P
(polymeric; self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT 62-53-3, Benzenamine, properties 91-59-8, 2-Naphthalenamine
348-54-9 372-19-0 769-92-6 1783-81-9 3046-82-0
(self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT 462-08-8P, 3-Pyridinamine 17867-16-2P 20880-14-2P 835897-13-7P
835897-14-8P 835897-15-9P 835897-16-0P 835897-17-1P
835897-18-2P
(self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices)
IT 2085-33-8, Alq3 4733-39-5, BCP
(self-assembled zinc(II) Schiff base polymers for applications in polymer light-emitting devices containing)
OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 21 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2004:1032472 HCAPLUS Full-text
DOCUMENT NUMBER: 142:187779
TITLE: Programmable polymer thin film and non-volatile memory device
AUTHOR(S): Ouyang, Jianyong; Chu, Chih-Wei; Szmanda, Charles R.; Ma, Liping; Yang, Yang
CORPORATE SOURCE: Department of Materials Science and Engineering, University of California, Los Angeles, CA, 90095, USA
SOURCE: Nature Materials (2004), 3(12), 918-922
CODEN: NMAACR; ISSN: 1476-1122
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal

LANGUAGE: English
ED Entered STN: 02 Dec 2004
AB Building on the success of organic electronic devices, such as light-emitting diodes and field-effect transistors, procedures for fabricating nonvolatile organic memory devices are now being explored. We demonstrate an organic memory device fabricated by solution processing. Programmable elec. bistability was observed in a device made from a polystyrene film containing gold nanoparticles and 8-hydroxyquinoline sandwiched between two metal electrodes. The as-prepared device, which is in a low-conductivity state, displays an abrupt transition to a high-conductivity state under an external bias of 2.8 V. These two states differ in conductivity by about four orders of magnitude. Applying a neg. bias of 1.8 V causes the device to return to the low-conductivity state. The electronic transition is attributed to the elec.-field-induced charge transfer between the gold nanoparticles and 8-hydroxyquinoline. The transition from the low- to the high-conductivity state takes place in nanoseconds, and is nonvolatile, indicating that the device may be used for low-cost, high-d. memory storage.
IT 7429-90-5, Aluminum, uses
(electrodes; programmable polymer thin film and nonvolatile memory device)
RN 7429-90-5 HCAPLUS
CN Aluminum (CA INDEX NAME)

Al

IT 148-24-3, 8-Hydroxyquinoline, uses
(programmable polymer thin film and nonvolatile memory device)
RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38
IT 7429-90-5, Aluminum, uses
(electrodes; programmable polymer thin film and nonvolatile memory device)
IT 148-24-3, 8-Hydroxyquinoline, uses 9003-53-6, Polystyrene
(programmable polymer thin film and nonvolatile memory device)
OS.CITING REF COUNT: 247 THERE ARE 247 CAPLUS RECORDS THAT CITE THIS RECORD (247 CITINGS)
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 22 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2004:823958 HCAPLUS Full-text
DOCUMENT NUMBER: 141:340538

TITLE: Organic/inorganic hybrid material, composition for synthesizing the same, and process for producing the hybrid material
INVENTOR(S): Seo, Satoshi; Nakashima, Harue; Nomura, Ryoji
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co. Ltd., Japan
SOURCE: PCT Int. Appl., 99 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004085543	A1	20041007	WO 2004-JP3610 <--	20040317
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1607446	A1	20051221	EP 2004-721373 <--	20040317
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
CN 1795241	A	20060628	CN 2004-80014783 <--	20040317
CN 100422269	C	20081001		
CN 101368006	A	20090218	CN 2008-10210659 <--	20040317
US 20040265253	A1	20041230	US 2004-809130 <--	20040325
US 7517470	B2	20090414		
US 20090206746	A1	20090820	US 2009-420548 <--	20090408
PRIORITY APPLN. INFO.:			JP 2003-85688 A <--	20030326
			CN 2004-80014783 A3 <--	20040317
			WO 2004-JP3610 W <--	20040317
			US 2004-809130 A3 <--	20040325

ED Entered STN: 08 Oct 2004
AB An organic/inorg. hybrid material contains an organic compound (functional chelating agent) which is capable of manifesting coloring, luminescence and semiconductor property functions through formation of a chelate with metal atom and is in pendant-form chelate coordination with the metal atom of metal oxide matrix. This organic/inorg. hybrid material can be synthesized by preparing a sol (coating composition) comprising a metal alkoxide and/or metal salt and a functional chelating agent and thereafter carrying out synthetic operation according to sol gel process. Thus, there can be synthesized an

organic/inorg. hybrid material which has an organic group directly linked to a metal oxide matrix and consequently can manifest functions different from those of simple metal oxide. That is, a functional organic/inorg. hybrid material capable of manifesting coloring, luminescence or semiconductor properties can be realized by the organic group directly linked to a metal oxide matrix.

IT 2269-22-9 7446-70-0, Aluminum chloride, processes
(organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

RN 2269-22-9 HCAPLUS

CN 2-Butanol, aluminum salt (3:1) (CA INDEX NAME)

●1/3 Al

RN 7446-70-0 HCAPLUS

CN Aluminum chloride (AlCl3) (CA INDEX NAME)

IT 148-24-3DP, 8-Quinolinol, chelates with metal oxide matrix
1344-28-1P, Alumina, preparation
(organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al2O3) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM C09B057-10
ICS C09K011-06; C09D185-00; C09D001-00; C09D007-12; H05B033-14; C03C017-32

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 42

ST org inorg hybrid coloring luminescence semiconductor property

IT Metal alkoxides
(coating; organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

IT Electroluminescent devices
(displays; organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

IT Luminescent screens
(electroluminescent; organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

IT Coating materials
Coloring materials
Luminescent substances
Semiconductor materials
(organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

IT Oxides (inorganic), uses
(organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

IT 78-10-4D, Tetraethoxysilane, hydrolyzed 2269-22-9 7446-70-0, Aluminum chloride, processes
(organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

IT 148-24-3DP, 8-Quinolinol, chelates with metal oxide matrix 1344-28-1P, Alumina, preparation 7631-86-9P, Silica, preparation
(organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

IT 141-97-9, Ethyl acetoacetate
(organic/inorg. hybrid material having coloring, luminescence or semiconductor properties)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 23 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:702156 HCAPLUS Full-text

DOCUMENT NUMBER: 141:226346

TITLE: Metal 8-hydroxyquinoline-functionalized polymers and their preparation for optical materials

INVENTOR(S): Weck, Marcus; Meyers, Amy

PATENT ASSIGNEE(S): Georgia Tech Research Corporation, USA

SOURCE: PCT Int. Appl., 88 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004073030	A2	20040826	WO 2004-US3587 <--	20040206
WO 2004073030	A3	20040923		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 20050131175 A1 20050616 US 2004-773980 20040206
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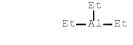
US 7105617 B2 20060912
PRIORITY APPLN. INFO.: US 2003-445701P P 20030206
<--
US 2003-500000P P 20030904
<--

OTHER SOURCE(S): MARPAT 141:226346
ED Entered STN: 27 Aug 2004
AB This invention relates to the synthesis of Mqn-containing monomeric compds., comprising a polymerizable moiety, an Mqn-moiety, and an optional chemical spacer therebetween, wherein q, in each instance, comprises an 8-hydroxyquinoline residue, M is a metal such as Mg, Zn, Al, Ga, or In, and n is 2 or 3 as the valence of the metal requires. For example, the polymerization of Znq2- or Alq3-containing monomers, in the presence or absence of a co-monomer, provided a Znq2- or Alq3-containing polymer, which retained the optical properties of Znq2 or Alq3 in solution, resp. The Mqn-containing polymers may be used in, among other things, the fabrication of light-emitting diodes (LEDs).
IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions
(metal 8-hydroxyquinoline-functionalized polymers and their preparation for optical materials)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)



RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

IC ICM H01L
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 73
IT Electroluminescent devices
(metal 8-hydroxyquinoline-functionalized polymers and their preparation for optical materials)
IT 97-93-8, Triethylaluminum, reactions 148-24-3,

8-Hydroxyquinoline, reactions 2598-30-3, 5-Formyl-8-hydroxyquinoline 17016-12-5 511243-83-7, Bicyclo[2.2.1]hept-5-ene-2-hexanenitrile (metal 8-hydroxyquinoline-functionalized polymers and their preparation for optical materials)

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 24 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:638852 HCAPLUS Full-text

DOCUMENT NUMBER: 141:342388

TITLE: Investigations on the electronic effects of the peripheral 4'-group on 5-(4'-substituted)phenylazo-8-hydroxyquinoline ligands: zinc and aluminium complexes

AUTHOR(S): La Deda, Massimo; Grisolia, Annarita; Aiello, Iolinda; Crispini, Alessandra; Ghedini, Mauro; Belviso, Sandra; Amati, Mario; Lelj, Francesco

CORPORATE SOURCE: LASCAMM, Unita INSTM della Calabria, Dipartimento di Chimica, Universita degli Studi della Calabria, Arcavacata di Rende), I-87036, Italy

SOURCE: Dalton Transactions (2004), (16), 2424-2431
CODEN: DTARAF; ISSN: 1477-9226

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:342388

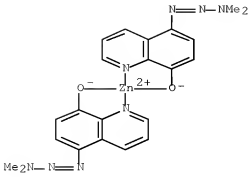
ED Entered STN: 09 Aug 2004

AB 5-(4'-Substituted)phenylazo-8-hydroxyquinolines (H[L-R]; R = NMe2, I, C2H5, II, Bu, III, CMe3, IV, H, V and F, VI) were prepared and the corresponding Zn[L-R]2 (1a-6a) and Al[L-R]3 (1b-6b) complexes successfully synthesized. These compds. were studied to design new mol. materials with enhanced electron transport properties. The obtained species were extensively characterized by absorption and emission spectra and by cyclic voltammetric measurements. Exptl. and computational results show that the Zn[L-NMe2]·2H2O (1a) and Al[L-NMe2] (1b) complexes only feature luminescence (at 620 and 600 nm), resp. The unique effects, which are induced by the N:N-C6H4-NMe2 group, are further proved by a reversible electron transfer process detected by cyclic voltammetry. These outcomes, discussed from theor. calcns. performed on the {H[L-NMe2]}-, H[L-NMe2] and {H[L-NMe2]}+ species, suggest that metal complexes formed by 5-(4'-N,N-dimethylamino)phenylazo-8-hydroxyquinoline should be considered as electron transport materials suitable for applications in photonic devices.

IT 769936-04-1
(cyclic voltammetry and luminescence spectra of)

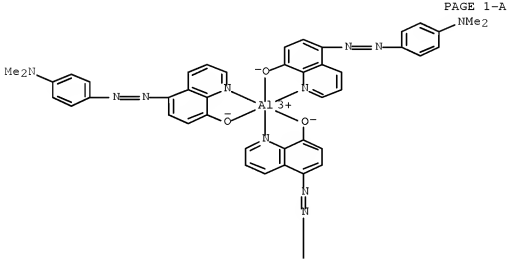
RN 769936-04-1 HCAPLUS

CN Zinc, bis[5-(3,3-dimethyl-1-triazenyl)-8-quinolinolato-κN1,κO8]-, (T-4)- (9CI) (CA INDEX NAME)



IT 769935-97-9P
(preparation and cyclic voltammetry and fluorescence of)
RN 769935-97-9 HCAPLUS
CN Aluminum, tris[5-[[4-(dimethylamino)phenyl]azo]-8-quinolinolato-κN1,κO8]- (9CI) (CA INDEX NAME)

PAGE 1-A



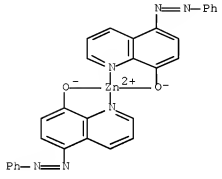
PAGE 2-A

IT 14708-01-1P 769935-93-5P 769935-94-6P
769935-95-7P 769935-96-8P 769935-98-0P

769935-99-1P 769936-00-7P 769936-01-8P
769936-02-9P
(preparation and cyclic voltammetry of)

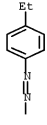
RN 14708-01-1 HCAPLUS

CN Zinc, bis[5-(phenylazo)-8-quinolinolato-κN1,κO8]-, (T-4)-
(9CI) (CA INDEX NAME)



RN 769935-93-5 HCAPLUS

CN Zinc, bis[5-[(4-ethylphenyl)azo]-8-quinolinolato-κN1,κO8]-
, (T-4)- (9CI) (CA INDEX NAME)



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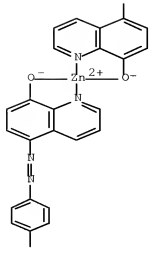

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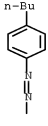
RN 769935-94-6 HCAPLUS

CN Zinc, bis[5-[(4-butylphenyl)azo]-8-quinolinolato-κN1,κO8]-, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A



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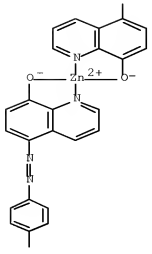
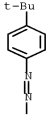


PAGE 3-A

RN 769935-95-7 HCAPLUS
CN Zinc, bis[5-[[4-(1,1-dimethylethyl)phenyl]azo]-8-quinolinolato-κN1,κO8]-, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A



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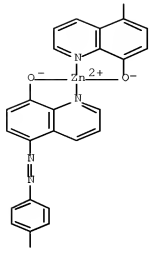
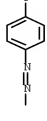


PAGE 3-A

RN 769935-96-8 HCAPLUS
CN Zinc, bis[5-[(4-fluorophenyl)azo]-8-quinolinolato-κN1,κO8]-, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A



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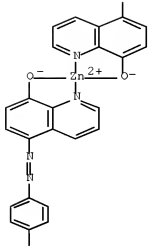

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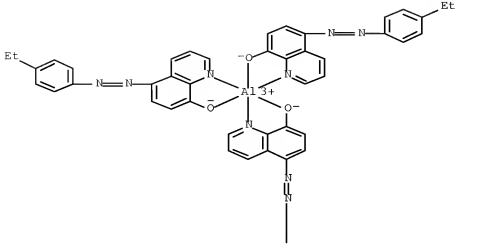
I

RN 769935-98-0 HCAPLUS
CN Aluminum, tris[5-[(4-ethylphenyl)azo]-8-quinolinolato-κN1,κO8]- (9CI) (CA INDEX NAME)

PAGE 1-A



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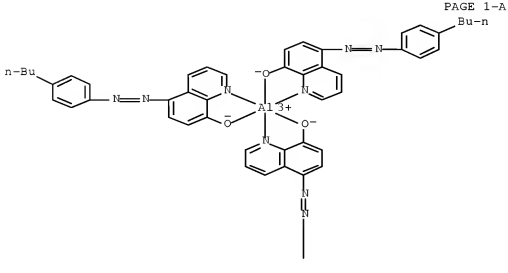
RN 769935-99-1 HCAPLUS
CN Aluminum, tris[5-[(4-butylphenyl)azo]-8-quinolinolato-κN1,κO8]- (9CI) (CA INDEX NAME)

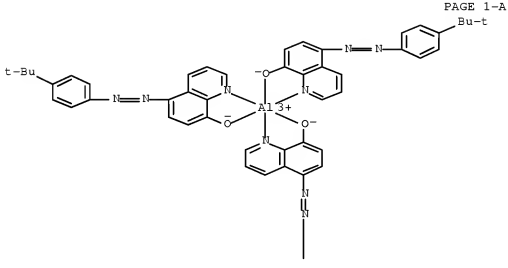
PAGE 1-A



PAGE 2-A

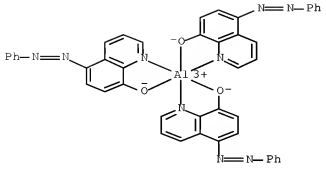
RN 769936-00-7 HCAPLUS
CN Aluminum, tris[5-[[4-(1,1-dimethylethyl)phenyl]azo]-8-quinolinolato-κN1,κO8]- (9CI) (CA INDEX NAME)

PAGE 1-A



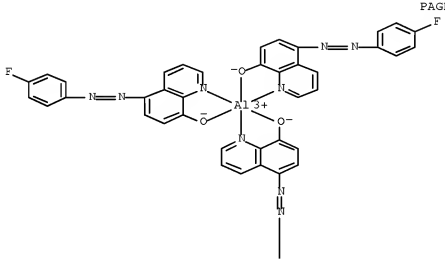
PAGE 2-A

RN 769936-01-8 HCAPLUS
CN Aluminum, tris[5-(phenylazo)-8-quinolinolato-κN1,κO8]- (9CI) (CA INDEX NAME)



RN 769936-02-9 HCAPLUS
CN Aluminum, tris[5-[(4-fluorophenyl)azo]-8-quinolinolato-κN1,κO8]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

IT 148-24-3, 8-Hydroxyquinoline, reactions
(reactant for preparation of phenylazohydroxyquinolines)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 27, 65, 72, 73, 75
IT 769936-04-1
(cyclic voltammetry and luminescence spectra of)
IT 769935-97-9P
(preparation and cyclic voltammetry and fluorescence of)
IT 14708-01-1P 769935-93-5P 769935-94-6P
769935-95-7P 769935-96-8P 769935-98-0P
769935-99-1P 769936-00-7P 769936-01-8P
769936-02-9P
(preparation and cyclic voltammetry of)
IT 148-24-3, 8-Hydroxyquinoline, reactions 371-40-4,
4-Fluoroaniline 769-92-6, 4-tert-Butylaniline
(reactant for preparation of phenylazohydroxyquinolines)
OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 25 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2004:528452 HCAPLUS Full-text
DOCUMENT NUMBER: 141:284916
TITLE: Solution-Processible Small Molecular Organic Light-Emitting Diode Material and Devices Based on the Substituted Aluminum Quinolate
AUTHOR(S): Cheng, Jung-An; Chen, Chin H.; Liao, Chi Hung
CORPORATE SOURCE: Department of Applied Chemistry and Display Institute, Microelectronics and Information System Research Center, National Chiao Tung University, Hsinchu, 30050, Taiwan
SOURCE: Chemistry of Materials (2004), 16(15), 2862-2868
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 02 Jul 2004
AB We have discovered a new type of small mol. host material based on aluminum(III) 8-hydroxyquinolates, Al(Saq)3, which was synthesized with three 5-(N-ethylanilinesulfonamide)-8-quinolinoline as bidentate ligands. By X-ray diffraction crystallog. anal., the crystals of meridional Al(Saq)3 are monoclinic, space group P21/c, a = 17.952(3) Å, b = 17.716(3) Å, c = 17.080(3) Å, β = 99.895(4)°. Its peak photoluminescence in solid phase appears at 488 nm. Its LUMO/HOMO (-3.13/-6.04 eV) and optical band gap (Eg 2.91 eV) were determined by cyclic voltammetry. In solid thin film morphol. investigation,

it shows good thermal properties and high quantum efficiency. When doped with 0.7 weight % of the high fluorescent green dopant 10-(2-benzothiazolyl)-1,1,7,7-tetramethyl-2,3,6,7- tetrahydro-1H,5H,11H-benzo-[l]pyrano[6,7,8-ij]quinolizin-11-one (C-545T), energy transfer from Al(Saq)3 to dopant will occur and high green light emission can be achieved. For fabrication of OLEDs using spin-coating techniques, its electroluminescence is at 1931 CIEx,y (0.21, 0.41).

IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions
(synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)

RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78

ST electroluminescent device aluminum ethylanilinesulfonamide quinolate photoluminescence band gap structure

IT LUMO (molecular orbital)
(HOMO gap; of Al(Saq)3 electroluminescent material)

IT HOMO (molecular orbital)
(LUMO gap; of Al(Saq)3 electroluminescent material)

IT UV and visible spectra
(absorption; of Al(Saq)3 electroluminescent material)

IT Annealing
(effect on photoluminescence; synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)

IT Luminescent substances
(electroluminescent; synthesis, structure, optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)

IT Bond angle
Bond length
Crystal structure
Molecular structure
Surface structure
Thermal stability

X-ray diffraction
(of Al(Saq)3 electroluminescent material)
IT Band gap
(optical; of Al(Saq)3 electroluminescent material)
IT Electroluminescent devices
Energy transfer
Luminescence, electroluminescence
(synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT Electric current-potential relationship
(synthesis, structure, optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT Luminescence
(visible; of Al(Saq)3 electroluminescent material)
IT 25067-59-8, PVK
(PVK; synthesis, structure, optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT 9003-53-6D, sulfonated
(dopant for PEDOT; synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT 126213-51-2
(doped with PSS; synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT 155306-71-1, C 545T
(fluorescent green dopant; synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride LiF, uses 50926-11-9, Indium tin oxide
(synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT 757235-20-4P
(synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT 97-93-8, Triethylaluminum, reactions 103-69-5, N-Ethylaniline 148-24-3, 8-Hydroxyquinoline, reactions 7790-94-5, Chlorosulfonic acid
(synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT 757231-25-7P
(synthesis, structure and optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
IT 123847-85-8
(synthesis, structure, optical and thermal properties of Al(Saq)3 electroluminescent material and devices based on Al(Saq)3)
OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 26 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:3688 HCAPLUS Full-text
DOCUMENT NUMBER: 140:67366
TITLE: AlRq'2 type aluminum compound and method for manufacturing the same and derivative thereof
INVENTOR(S): Yamamoto, Takakazu; Yamaguchi, Isao; Iijima, Takayuki
PATENT ASSIGNEE(S): Tokyo Institute of Technology, Japan
SOURCE: U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040002578	A1	20040101	US 2003-361575 <--	20030211
JP 2004026749	A	20040129	JP 2002-187795 <--	20020627
PRIORITY APPLN. INFO.:			JP 2002-187795 A <--	20020627

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 140:67366
ED Entered STN: 04 Jan 2004
AB By reacting trialkyl aluminum (AlR3) with 2-position substituted 8-quinolinol(q'H) at a mole ratio of 1:2, an AlRq'2 type aluminum compound having a specified structural formula is manufactured The resulting compound is further reacted with an active hydrogen-containing organic compound to obtain a derivative such as an Alq'2q type derivative, wherein q = 8-quinolinolato ligand and q' = 2-position substituted 8-quinolinolato ligand. Thus, 4.60 mL triethylaluminum and 9.55 g 2-methyl-8-quinolinol were reacted at room temperature for 12 h to give 10.9 g ethylbis(2-methyl-8-quinolinolato)aluminum, which could coordinate a conjugated polymer obtained from 5,7-dibromo-8-tert-butyldimethylsilyloxyquinoline and 1,4-diethynyl-2,5-didodecyloxybenzene to give a light emitting macromol. suitable for use as an electroluminescence material.
IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Quinolinol, reactions
(reactant; preparation of alkyldiquinolinol type aluminum compound useful as electroluminescence materials)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

IC ICM C08G063-78
ICS C08G063-87; C07F005-06
INCL 528205000; 546010000
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
ST alkyldiquinolinol aluminum compd prepn electroluminescent material
IT Luminescent substances
(electroluminescent; preparation of alkyldiquinolinol type aluminum compound useful as electroluminescence materials)
IT 535949-58-7P 637772-83-9P 637772-84-0P
(preparation of alkyldiquinolinol type aluminum compound useful as electroluminescence materials)
IT 469886-06-4P, Aluminum, bis(2-methyl-8-quinolinolato-κN1,κO8)(8-quinolinolato-κN1,κO8)-, (OC-6-42)-
(preparation of alkyldiquinolinol type aluminum compound useful as electroluminescence materials)
IT 468758-29-4P, Aluminum, ethylbis(2-methyl-8-quinolinolato-κN1,κO8)-
(preparation of alkyldiquinolinol type aluminum compound useful as electroluminescence materials)
IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Quinolinol, reactions 826-81-3, 2-Methyl-8-quinolinol 2446-69-7, 4-Hexylphenol
(reactant; preparation of alkyldiquinolinol type aluminum compound useful as electroluminescence materials)

L62 ANSWER 27 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2003:1007243 HCAPLUS Full-text
DOCUMENT NUMBER: 140:51531
TITLE: Method for the roll-to-roll deposition of an optically transparent and high conductivity metallic thin film
INVENTOR(S): He, Xiao-Ming; Heydarpour, Ramin
PATENT ASSIGNEE(S): Avery Dennison Corporation, USA
SOURCE: PCT Int. Appl., 67 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003107079	A2	20031224	WO 2003-US18755 <--	20030612
WO 2003107079	A9	20040304		
WO 2003107079	A3	20040701		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,

GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG

US 20040001915	A1	20040101	US 2002-172282 <--	20020614
US 6811815	B2	20041102		
AU 2003259035	A1	20031231	AU 2003-259035 <--	20030612
EP 1534510	A2	20050601	EP 2003-760348 <--	20030612

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

PRIORITY APPLN. INFO.:	US 2002-172282 <--	A	20020614
	WO 2003-US18755 <--	W	20030612

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 26 Dec 2003

AB The invention relates to a method for the roll-to-roll deposition of an optically transparent and high conductivity metallic thin film, allowing the film to be collected in a continuous roll. The method consists of the steps of (i) providing a flexible plastic substrate; (ii) depositing a multilayered conductive metallic film on the flexible plastic substrate by a thin film deposition technique to form a composite film; and (iii) collecting the composite film in continuous rolls.

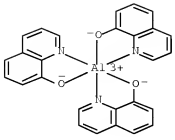
IT 148-24-3D, 8-Hydroxyquinoline, metal complexes
2085-33-8D, Alq3, derivs.
(luminescent material; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)

RN 148-24-3 HCAPLUS

CN 8-Quinolinol (CA INDEX NAME)

RN 2085-33-8 HCAPLUS

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)

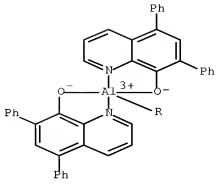


IC ICM G02F
CC 76-2 (Electric Phenomena)
Section cross-reference(s): 38, 56, 57, 73, 78
IT Ketones, uses
(1,3-diketones, metal complexes, luminescent material; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
IT Vapor deposition process
(chemical; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
IT Schiff bases
(complexes, luminescent material; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
IT Vapor deposition process
(ion plating; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
IT Polyacetylenes, uses
(ladder, luminescent material; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
IT Charge transfer complexes
Organometallic compounds
Poly(arylenealkenylenes)
Polyanilines
Polyphenyls
Rare earth complexes
(luminescent material; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
IT Composites
Laser ablation
Luminescent substances
Magnetron sputtering
(method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
IT Ladder polymers
(polyacetylenes, luminescent material; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
IT 91-22-5D, Quinoline, metal complexes 123-54-6D, Acetylacetone, metal complexes 148-24-3D, 8-Hydroxyquinoline, metal complexes 2085-33-8D, Alq3, derivs. 7440-31-5D, Tin, tin(IV) complexes 9033-83-4, Poly(phenylene) 17056-99-4D, 5-Hydroxyquinoxaline, metal complexes 25038-69-1, Poly(phenylacetylene) 25067-59-8, Poly(N-vinylcarbazole) 25233-30-1, Poly(aniline) 25233-34-5, Poly(thiophene) 25233-34-5D, Poly(thiophene), 3-alkyl derivs.

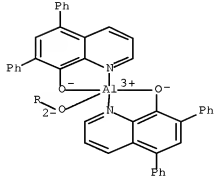
26009-24-5, Poly(p-phenylenevinylene) 26009-24-5D, Poly(p-phenylenevinylene), dialkoxy derivs. 41999-83-1D, Maleonitriledithiol, metal complexes 95270-88-5, Poly(fluorene) 104934-51-2, Poly(3-octylthiophene)
(luminescent material; method for roll-to-roll deposition of optically transparent and high conductivity metallic thin film)
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 28 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2003:732139 HCAPLUS Full-text
DOCUMENT NUMBER: 139:365902
TITLE: Immiscible polymers in double spin-coated electroluminescent devices containing phenyl-substituted tris(8-hydroxyquinoline)aluminum derivatives soluble in a host polymer
AUTHOR(S): Shoji, E.; Miyatake, K.; Hlil, A. R.; Hay, A. S.; Maindron, T.; Jousseaume, V.; Dodelet, J. P.; Tao, Y.; D'Iorio, M.
CORPORATE SOURCE: Department of Chemistry, McGill University, Montreal, QC, H3A 2K6, Can.
SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2003), 41(19), 3006-3016
CODEN: JPACEC; ISSN: 0887-624X
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 18 Sep 2003
AB Three new phenyl-substituted tris(8-hydroxyquinoline)aluminum (AlQ3) derivs. have been synthesized:. Tris(5-phenyl-8-quinolinolate-N1,O8)aluminum, Tris(5,7-diphenyl-8-quinolinolate-N1,O8)aluminum, and Tris[5,7-bis(p-fluorophenyl)-8-quinolinolate-N1,O8]aluminum. These AlQ3 derivs. are easily soluble in common organic solvents and form solid-phase solns. in a poly(aryl ether ketone) host polymer (A 435). These interesting properties allow the use of soluble AlQ3 derivs. in double spin-coated organic light-emitting devices of the type ITO/NPB-QP/A 435 + 50 wt% soluble AlQ3 derivative/Mg, where NPB-QP is a hole-transporting polymer insol. in toluene, the solvent for A 435. Typical double spin-coated organic layer devices are characterized by an emission at 530-539 nm, a threshold voltage of 6-9 V, and a maximum luminance of 1800-4000 cd/m2 at 21-25 V.
IT 620987-22-6P
(preparation and properties of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
RN 620987-22-6 HCAPLUS
CN Aluminum, tetrakis(5,7-diphenyl-8-quinolinolato-κN1,κO8)-μ-oxodi- (CA INDEX NAME)

PAGE 1-A



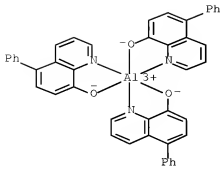
PAGE 2-A



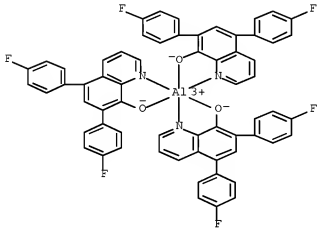
IT 213620-77-0P 269407-70-7P 362623-43-6P
(preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)

RN 213620-77-0 HCAPLUS

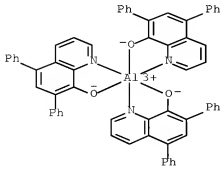
CN Aluminum, tris(5-phenyl-8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



RN 269407-70-7 HCAPLUS
CN Aluminum, tris[5,7-bis(4-fluorophenyl)-8-quinolinolato-κN1,κO8]- (CA INDEX NAME)



RN 362623-43-6 HCAPLUS
CN Aluminum, tris(5,7-diphenyl-8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions
(starting material; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

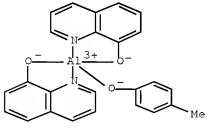
RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 29, 73, 76
ST hydroxyquinoline aluminum phenyl substituted electroluminescence host polymer immiscibility; light emitting device polyether polyketone host hydroxyquinoline aluminum deriv
IT Polysulfones, uses
(polyamine-polyether-, aromatic, hole-transporting polymer; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT Polyethers, uses
(polyamine-polysulfone-, aromatic, hole-transporting polymer; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT Polyketones
(polyether-, aromatic, host polymer; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT Polyamines
(polyether-polysulfone-, aromatic, hole-transporting polymer; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)

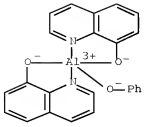
IT Polyethers, uses
(polyketone-, aromatic, host polymer; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT Band gap
Electric current
Electroluminescent devices
Emissivity
Fluorescence
Glass transition temperature
Luminescence, electroluminescence
Solubility
Threshold potential
(preparation and properties of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT 132980-80-4, A 435 (Polymer)
(A 435, host polymer; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT 123847-85-8D, NPB, polyether-polysulfones
(hole-transporting polymer; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT 1198-14-7P, 5-Bromo-8-hydroxyquinoline 15657-87-1P 84165-50-4P
202259-06-1P 202259-09-4P 620987-08-8P 620987-09-9P
620987-10-2P 620987-11-3P
(intermediate; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT 620987-22-6P
(preparation and properties of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT 7439-95-4, Magnesium, uses 50926-11-9, Indium tin oxide
(preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT 213620-77-0P 269407-70-7P 362623-43-6P
(preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
IT 97-93-8, Triethylaluminum, reactions 98-80-6, Phenylboronic acid 100-44-7, Benzyl chloride, reactions 148-24-3, 8-Hydroxyquinoline, reactions 521-74-4 1765-93-1, p-Fluorophenylboronic acid
(starting material; preparation of Ph-substituted tris(8-hydroxyquinoline)aluminum derivs. used in double spin-coated electroluminescent devices with specially designed hole-transporting polymer)
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

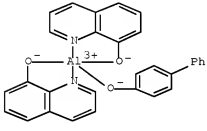
L62 ANSWER 29 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2002:872172 HCAPLUS Full-text
DOCUMENT NUMBER: 138:212400
TITLE: Novel bis(8-hydroxyquinoline)phenolato-aluminum complexes for organic light-emitting diodes
AUTHOR(S): Wang, Guang; Liang, Fushun; Xie, Zhiyuan; Su, Guangping; Wang, Lixiang; Jing, Xiabin; Wang, Fosong
CORPORATE SOURCE: Changchun Institute of Applied Chemistry, The State Key Laboratory of Polymer Physics and Chemistry, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China
SOURCE: Synthetic Metals (2002), 131(1-3), 1-5
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 18 Nov 2002
AB Emitting Al complexes containing 2 8-hydroxyquinoline ligands (q) and a phenolato ligand (p) were synthesized and characterized. Double layer organic light-emitting diodes (OLEDs) were fabricated using these complexes as luminescent layers, and strong electroluminescence (EL) was observed Their emitting wavelengths were mainly determined by the 1st ligands (q). Cyclic voltammograms revealed a partially irreversible n-doping process and indicated that these complexes show excellent electron- transporting ability.
IT 146734-96-5P 224785-36-8P 444716-92-1P 500298-25-9P
((8-hydroxyquinoline)phenolato-aluminum complexes for organic LEDs)
RN 146734-96-5 HCAPLUS
CN Aluminum, (4-methylphenolato)bis(8-quinolinolato-N1,O8)- (9CI) (CA INDEX NAME)



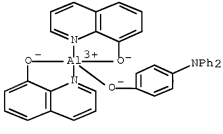
RN 224785-36-8 HCAPLUS
CN Aluminum, phenoxybis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



RN 444716-92-1 HCAPLUS
CN Aluminum, [[1,1'-biphenyl]-4-olato]bis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



RN 500298-25-9 HCAPLUS
CN Aluminum, [4-(diphenylamino)phenolato-κO]bis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



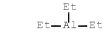
IT 97-93-8, Triethylaluminum, uses 148-24-3, 8-Hydroxyquinoline, uses
((8-hydroxyquinoline)phenolato-aluminum complexes for organic LEDs synthesized using)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 72, 76, 77
ST LED hydroxyquinoline phenolato aluminum deriv complex; cyclic voltammetry hydroxyquinoline phenolato aluminum deriv complex LED; electroluminescence hydroxyquinoline phenolato aluminum deriv complex LED; current voltage hydroxyquinoline phenolato aluminum deriv complex LED; NMR spectra hydroxyquinoline phenolato aluminum deriv complex LED; luminescence hydroxyquinoline phenolato aluminum deriv complex LED
IT Electroluminescent devices
((8-hydroxyquinoline)phenolato-aluminum complexes for organic LEDs)
IT Cyclic voltammetry
Luminescence
NMR (nuclear magnetic resonance)
(of (8-hydroxyquinoline)phenolato-aluminum complexes for organic LEDs)
IT Electric current-potential relationship
Electric potential
Luminescence, electroluminescence
(of (8-hydroxyquinoline)phenolato-aluminum complexes in organic LEDs)
IT 146734-96-5P 224785-36-8P 444716-92-1P
500298-25-9P
((8-hydroxyquinoline)phenolato-aluminum complexes for organic LEDs)
IT 50926-11-9, ITO 123847-85-8, Npb
((8-hydroxyquinoline)phenolato-aluminum complexes for organic LEDs containing)
IT 92-69-3, p-Phenylphenol 97-93-8, Triethylaluminum, uses 106-44-5, p-Methylphenol, uses 108-95-2, Phenol, uses 148-24-3, 8-Hydroxyquinoline, uses 25069-86-7, Phenol, 4-diphenylamino-
((8-hydroxyquinoline)phenolato-aluminum complexes for organic LEDs synthesized using)
OS.CITING REF COUNT: 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS RECORD (18 CITINGS)
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 30 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2002:626736 HCAPLUS Full-text
DOCUMENT NUMBER: 137:338348

TITLE: Synthesis of ALQ3-containing polymers using ring-opening metathesis polymerization
AUTHOR(S): Meyers, Amy; Weck, Marcus
CORPORATE SOURCE: Sch. Chem. Biochemistry, Georgia Inst. Technology, Atlanta, GA, 30332, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2002), 43(2), 1134
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
ED Entered STN: 20 Aug 2002
AB A functionalized norbornene unit, containing the attached Alq3 group, was polymerized using ring-opening metathesis. An 8-hydroxyquinoline mol. was attached to norbornene; self-assembly of the Alq2 component gave monomer which was then polymerized, resulting in a polymer containing the Alq3 pendants. The UV-visible spectra of both the monomer and polymer show similar absorption peaks as Alq3. Both the monomer and polymer also emitted light at the same wavelength (524 nm) as Alq3. The attachment of the Alq3-pendant group onto a polymer backbone will allow for easy fabrication of electroluminescent devices, such as light-emitting diodes.
IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Hydroxyquinoline, reactions
(preparation of luminescent aluminum-tris(hydroxyquinoline)-pendant polynorbornene by ring-opening metathesis polymerization of prepared monomer)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)



RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

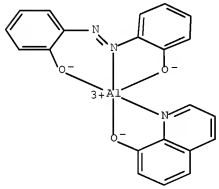
CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73
ST hydroxyquinoline norbornene carboxylate monomer prepn ring opening polymn; ring opening metathesis polymn Alq3 pendant polymer prepn; luminescence self assembly Alq3 pendant polymer
IT Polymerization
(metathetic, ring-opening; preparation of luminescent aluminum-tris(hydroxyquinoline)-pendant polynorbornene by ring-opening metathesis polymerization of prepared monomer)

IT Luminescence
Self-assembly
UV and visible spectra
(preparation of luminescent
aluminum-tris(hydroxyquinoline)-pendant polynorbornene by
ring-opening metathesis polymerization of prepared monomer)
IT 474096-45-2P
(Alq3 monomer; preparation of luminescent
aluminum-tris(hydroxyquinoline)-pendant polynorbornene by
ring-opening metathesis polymerization of prepared monomer)
IT 246047-72-3
(ROMP catalyst; preparation of luminescent
aluminum-tris(hydroxyquinoline)-pendant polynorbornene by
ring-opening metathesis polymerization of prepared monomer)
IT 474096-44-1P
(intermediate; preparation of luminescent
aluminum-tris(hydroxyquinoline)-pendant polynorbornene by
ring-opening metathesis polymerization of prepared monomer)
IT 474096-46-3P
(preparation of luminescent
aluminum-tris(hydroxyquinoline)-pendant polynorbornene by
ring-opening metathesis polymerization of prepared monomer)
IT 97-93-8, Triethylaluminum, reactions 148-24-3,
8-Hydroxyquinoline, reactions 27063-48-5
(preparation of luminescent
aluminum-tris(hydroxyquinoline)-pendant polynorbornene by
ring-opening metathesis polymerization of prepared monomer)
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 31 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2002:309105 HCAPLUS Full-text
DOCUMENT NUMBER: 137:207881
TITLE: Red light-emitting material for organic electroluminescence
AUTHOR(S): Shao, Yan; Liu, Yuhong; Qiu, Yong
CORPORATE SOURCE: Department of Chemistry, Tsinghua University, Beijing, 100084, Peop. Rep. China
SOURCE: Gongneng Cailiao (2001), 32(6), 662-663, 666
CODEN: GOCAEA; ISSN: 1001-9731
PUBLISHER: Gongneng Cailiao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 25 Apr 2002
AB The red light-emitting material used in organic electroluminescence, an Al complex, (2,2'- dihydroxyazobenzene)-(8-quinolinoato) Al (Al(azb-q)), was prepared by using AlCl3.6H2O, 2,2'-dihydroxyazobenzene, and 8-hydroxyquinoline. The material had high decomposition temperature of 200° and electron transport ability. The maximum wavelength of the EL emission of Al(azb-q) was at 635 nm. The color position in the color coordinates system showed a strong potential as a red light- emitting material for organic electroluminescence.
IT 148-24-3, 8-Hydroxyquinoline, uses 7784-13-6, Aluminum chloride hexahydrate
(in preparation of (2,2'-Dihydroxyazobenzene)(8-quinolinoato)aluminum)
RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

RN 7784-13-6 HCAPLUS
CN Aluminum chloride (AlCl3), hydrate (1:6) (CA INDEX NAME)

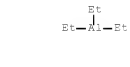
IT 351530-99-9P
(red light-emitting material for organic electroluminescence)
RN 351530-99-9 HCAPLUS
CN Aluminum, [[2,2'-(azo-κN)-bis[phenolato-κO]](2-)](8-quinolinolato-κN1,κO8)- (9CI) (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74, 78
ST red light emitting material org electroluminescence prepn; hydroxyazobenzene quinolinaoato aluminum
IT Luminescence, electroluminescence
(red; of (2,2'-Dihydroxyazobenzene)(8-quinolinoato)aluminum)
IT 148-24-3, 8-Hydroxyquinoline, uses 2050-14-8, 2,2'-Dihydroxyazobenzene 7784-13-6, Aluminum chloride hexahydrate
(in preparation of (2,2'-Dihydroxyazobenzene)(8-quinolinoato)aluminum)

IT 351530-99-9P
(red light-emitting material for organic electroluminescence)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L62 ANSWER 32 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2001:376188 HCAPLUS Full-text
DOCUMENT NUMBER: 135:146235
TITLE: Synthesis and luminescence behaviors of aluminum complex with mixed ligands
AUTHOR(S): Jang, H.; Do, L.-M.; Kim, Y.; Gon Kim, J.; Zyung, T.; Do, Y.
CORPORATE SOURCE: Department of Chemistry, School of Molecular Science, Taejon, 305-600, S. Korea
SOURCE: Synthetic Metals (2001), 121(1-3), 1669-1670
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:146235
ED Entered STN: 25 May 2001
AB A novel mixed ligand complex, AlQ(ClQ)2 (HQ = 8-quinolinol, HClQ = 5,7-dichloro-8-quinolinol) was synthesized and characterized. An organic electroluminescent (EL) device ITO/TPD/AlQ(ClQ)2/LiF/Al (ITO = In-Sn oxide, TPD = N,N'-diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine) was employed to study their EL properties. The EL device exhibits green light with maximum luminescence of 780 cd/m2 at 6.7 V.
IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Quinolinol, reactions
(reactant for preparation of aluminum quinolinolate dichloroquinolinolate complex)
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)



RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 78-7 (Inorganic Chemicals and Reactions)
ST aluminum quinolinol chloroquinolinol complex prepn luminescence

IT Electroluminescent devices
(green-emitting; using aluminum quinolinolate dichloroquinolinolate complex)
IT luminescence
(of aluminum quinolinolate dichloroquinolinolate complex)
IT 352004-29-6P
(preparation and luminescence and electroluminescent device using)
IT 97-93-8, Triethylaluminum, reactions 148-24-3, 8-Quinolinol, reactions 773-76-2, 5,7-Dichloro-8-quinolinol
(reactant for preparation of aluminum quinolinolate dichloroquinolinolate complex)
OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 33 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2001:185142 HCAPLUS Full-text
DOCUMENT NUMBER: 134:246046
TITLE: Efficient electron-injection for organic electroluminescent devices
INVENTOR(S): Madathil, Joseph K.; Mason, Max Garrett; Tang, Ching Wan
PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1083612	A2	20010314	EP 2000-202921 <--	20000821
EP 1083612	A3	20040102		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6278236	B1	20010821	US 1999-387402 <--	19990902
JP 2001085165	A	20010330	JP 2000-267679 <--	20000904
PRIORITY APPLN. INFO.:			US 1999-387402 A <--	19990902

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 16 Mar 2001
AB An organic electroluminescent (EL) device having a layered structure, including an anode; an organic hole-transport layer in contact with the anode; an organic emitting layer having 1 surface thereof in contact with the hole-transport layer; an organic electron-transport layer in contact with a second surface of the emitting layer; an electron-injecting layer in contact with the electron-transport layer; and a cathode in contact with the electron-injecting layer, in which the electron-injecting layer includes Al and ≥1 alkali halide or ≥1 alkaline earth halide.
IT 7429-90-5, Aluminum, processes
(electron-injection layer; efficient electron-injection layers for organic electroluminescent devices)
RN 7429-90-5 HCAPLUS

CN Aluminum (CA INDEX NAME)

Al

IT 148-24-3, 8-Quinolinol, processes
(emitting layer; efficient electron-injection layers for organic electroluminescent devices)
RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

IT 37275-76-6, Aluminum Zinc oxide 117944-65-7, Indium Zinc oxide
(light transmissive anode; efficient electron-injection layers for organic electroluminescent devices)
RN 37275-76-6 HCAPLUS
CN Aluminum zinc oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zn	x	7440-66-6
Al	x	7429-90-5

RN 117944-65-7 HCAPLUS
CN Indium zinc oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
In	x	7440-74-6
Zn	x	7440-66-6

IC ICM H01L051-20
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 74, 75
ST efficient electron injection org electroluminescent device
IT Electron transport
Electron-hole recombination
Hole transport
(efficient electron-injection layers for organic electroluminescent devices)
IT Transparent films
(elec. conductive, anode; efficient electron-injection layers for organic electroluminescent devices)

IT Alkali metal fluorides
Alkaline earth fluorides
(electron-injection layer; efficient electron-injection layers for organic electroluminescent devices)
IT Conduction electrons
(electron-injection; efficient electron-injection layers for organic electroluminescent devices)
IT Electric conductors
(films, transparent, anode; efficient electron-injection layers for organic electroluminescent devices)
IT Electroluminescent devices
(organic; efficient electron-injection layers for organic electroluminescent devices)
IT Glass, uses
Plastics, uses
(substrate; efficient electron-injection layers for organic electroluminescent devices)
IT Vapor deposition process
(vacuum; efficient electron-injection layers for organic electroluminescent devices)
IT 7429-90-5, Aluminum, processes
(electron-injection layer; efficient electron-injection layers for organic electroluminescent devices)
IT 7681-49-4, Sodium fluoride, processes 7783-40-6, Magnesium fluoride 7783-48-4, Strontium fluoride 7787-32-8, Barium fluoride 7789-23-3, Potassium fluoride 7789-24-4, Lithium fluoride, processes 7789-75-5, Calcium fluoride, processes 13400-13-0, Cesium fluoride 13446-74-7, Rubidium fluoride
(electron-injection layers; efficient electron-injection layers for organic electroluminescent devices)
IT 148-24-3, 8-Quinolinol, processes
(emitting layer; efficient electron-injection layers for organic electroluminescent devices)
IT 1332-29-2, Tin oxide 12640-79-8, Nickel tungsten oxide 37275-76-6, Aluminum Zinc oxide 50926-11-9, Indium-tin-oxide 56997-34-3, Cadmium tin oxide 117944-65-7, Indium Zinc oxide 158346-28-2, Indium Magnesium oxide
(light transmissive anode; efficient electron-injection layers for organic electroluminescent devices)
IT 14808-60-7, Quartz, uses
(substrate; efficient electron-injection layers for organic electroluminescent devices)
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 34 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2001:6947 HCAPLUS Full-text
DOCUMENT NUMBER: 134:185686
TITLE: Material transport regimes and mechanisms for growth of molecular organic thin films using low-pressure organic vapor phase deposition
AUTHOR(S): Shtein, Max; Gossenberger, Herman F.; Benziger, Jay B.; Forrest, Stephen R.
CORPORATE SOURCE: Center for Photonics and Optoelectronic Materials and Department of Chemical Engineering, Princeton University, Princeton, NJ, 08544, USA
SOURCE: Journal of Applied Physics (2001),

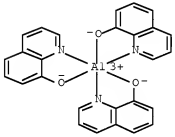
89(2), 1470-1476
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 04 Jan 2001

AB The authors determine the phys. mechanisms controlling the growth of amorphous organic thin films by the process of low-pressure organic vapor phase deposition (LP-OVPD). In LP-OVPD, multiple host and dopant mol. sources are introduced into a hot wall reactor via several injection barrels using an inert carrier gas, allowing for controlled film growth rates exceeding 10 Å/s. The temperature and carrier flow rate for each source can be independently regulated, allowing considerable control over dopant concentration, deposition rate, and thickness uniformity of the thin films. The rate of film deposition is limited either by the rate of condensation on the substrate or by the rate of supply from the source. The source-limited regime can be further classified into equilibrium or kinetically limited evaporation, coupled to convection- or diffusion-limited deposition. Models are developed to relate the rate of film growth to source and substrate temperature, and carrier gas flow rate. These models characterize and predict the performance of the LP-OVPD system used to grow high performance organic light emitting devices.

IT 2085-33-8, Tris(8-hydroxyquinoline)aluminum
(material transport regimes and mechanisms for growth of mol. organic thin films using low-pressure organic vapor phase deposition)

RN 2085-33-8 HCAPLUS

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74, 75, 76

IT Convective flow
Dopants
Electroluminescent devices
Flow
Fluorescent dyes
Simulation and Modeling, physicochemical
Thickness
Vapor deposition process
(material transport regimes and mechanisms for growth of mol. organic thin films using low-pressure organic vapor phase deposition)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinoline)aluminum 31248-39-2, Platinum octaethylporphyrin 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl 94928-86-6 123847-85-8, α-NPD
(material transport regimes and mechanisms for growth of mol. organic

thin films using low-pressure organic vapor phase deposition)
OS.CITING REF COUNT: 51 THERE ARE 51 CAPLUS RECORDS THAT CITE THIS RECORD (51 CITINGS)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 35 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2000:536215 HCAPLUS Full-text
DOCUMENT NUMBER: 133:238413
TITLE: Synthesis and characterization of a novel AlQ3-containing polymer
AUTHOR(S): Lu, Jianping; Hlil, Antisar R.; Meng, Yuezhong; Hay, Allan S.; Tao, Ye; D'Iorio, Marie; Maindron, Tony; Dodelet, Jean-Pol
CORPORATE SOURCE: Department of Chemistry, McGill University, Montreal, QC, H3A 2K6, Can.
SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2000), 38(16), 2887-2892
CODEN: JPACEC; ISSN: 0887-624X
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Aug 2000
AB The synthesis of a tris(8-hydroxyquinoline)aluminum (AlQ3)-containing poly(arylene ether) (I) is reported. The presence of AlQ3 pendants in polymer I is confirmed by NMR, UV-visible, photoluminescence, and gel permeation chromatog. analyses. This is the first report of the attachment of AlQ3 complexes as side chains to a polymer. Polymer I has a glass-transition temperature of 217.8° and is thermally stable with a 5% weight-loss temperature greater than 500° under nitrogen, as determined by differential scanning calorimetry and thermogravimetric analyses, resp. Polymer I is quite soluble in common organic solvents, such as THF, N,N-dimethylacetamide, and CHCl3. A composite that is 80 wt % polymer I and 20 wt% AlQ3 forms a transparent and tough film when cast from its chloroform solution The application of this AlQ3-containing polymer in light-emitting diodes is under investigation.
IT 97-93-8DP, Triethylaluminum, reaction products with poly(arylene ether), aminohydroquinoline, and hydroxyquinoline 148-24-3DP, 8-Hydroxyquinoline, reaction products with poly(arylene ether), aminohydroquinoline, and triethylaluminum
(synthesis and characterization of novel tris(8-hydroxyquinoline)aluminum-containing poly(arylene ether))
RN 97-93-8 HCAPLUS
CN Aluminum, triethyl- (CA INDEX NAME)

RN 148-24-3 HCAPLUS
CN 8-Quinolinol (CA INDEX NAME)

CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73, 76
ST hydroxyquinoline aluminum polyarylene polyether prepn property; light emitting diode hydroxyquinoline aluminum polyarylene polyether
IT Electroluminescent devices
Glass transition temperature
Luminescence
Polymerization
Solubility
(synthesis and characterization of novel tris(8-hydroxyquinoline)aluminum-containing poly(arylene ether))
IT 97-93-8DP, Triethylaluminum, reaction products with poly(arylene ether), aminohydroquinoline, and hydroxyquinoline 148-24-3DP, 8-Hydroxyquinoline, reaction products with poly(arylene ether), aminohydroquinoline, and triethylaluminum 21302-43-2DP, 5-Amino-8-hydroxyquinoline dihydrochloride, reaction products with poly(arylene ether), complexes with aluminum and hydroquinoline 294212-77-4DP, reaction products with aminohydroquinoline, complexes with aluminum and hydroquinoline
(synthesis and characterization of novel tris(8-hydroxyquinoline)aluminum-containing poly(arylene ether))
OS.CITING REF COUNT: 40 THERE ARE 40 CAPLUS RECORDS THAT CITE THIS RECORD (40 CITINGS)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 36 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1999:350782 HCAPLUS Full-text
DOCUMENT NUMBER: 130:359585
TITLE: Low pressure vapor phase deposition of organic thin films
INVENTOR(S): Forrest, Stephen R.; Burrows, Paul; Ban, Vladimir S.
PATENT ASSIGNEE(S): The Trustees of Princeton University, USA
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9925894	A1	19990527	WO 1998-US24424 <--	19981116

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6337102	B1	20020108	US 1997-972156 <--	19971117
AU 9914124	A	19990607	AU 1999-14124 <--	19981116
EP 1032722	A1	20000906	EP 1998-957997 <--	19981116
EP 1032722	B1	20041027		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001523768	T	20011127	JP 2000-521253 <--	19981116
TW 575699	B	20040211	TW 1998-87118943 <--	19981117
US 20010002279	A1	20010531	US 2000-736090 <--	20001213
US 20020155230	A1	20021024	US 2002-125400 <--	20020419
US 6558736	B2	20030506		
US 20040007178	A1	20040115	US 2003-427933 <--	20030502
US 20070131172	A1	20070614	US 2007-655258 <--	20070119
JP 2009238756	A	20091015	JP 2009-138382 <--	20090609

PRIORITY APPLN. INFO.:	US 1997-972156 <--	A	19971117
	JP 2000-521253 <--	A3	19981116
	WO 1998-US24424 <--	W	19981116
	US 2000-663143 <--	B1	20000915
	US 2000-736090 <--	A1	20001213
	US 2002-125400 <--	A3	20020419
	US 2003-427933 <--	A1	20030502

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

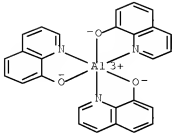
ED Entered STN: 08 Jun 1999

AB Methods for preparing organic thin films on substrates are described which entail providing a plurality of organic precursors in the vapor phase, and reacting the plurality of organic precursors at a pressure below atmospheric pressure to produce a film on the substrate. The methods may be applied to the production of organic light-emitting devices. Apparatus for carrying out the methods is described which comprises a reaction chamber; means for heating the reaction chamber; means for introducing vapors of organic precursor materials into the reaction chamber; and means for reducing the pressure in the reaction chamber to below atmospheric pressure. Apparatus is also described which includes a plurality of vacuum chambers and a conveyor for moving substrates between them. Films, including light-emitting and nonlinear optical material films, formed by the methods are also claimed.

IT 2085-33-8P, Tris(8-hydroxyquinolinato)aluminum
224785-36-8P
(methods for low pressure vapor phase deposition of organic thin films and deposition apparatus and films produced by the methods)

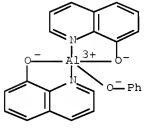
RN 2085-33-8 HCAPLUS

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



RN 224785-36-8 HCAPLUS

CN Aluminum, phenoxybis(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



IC ICM C23C016-00
ICS H01J001-62

CC 75-1 (Crystallography and Liquid Crystals)
Section cross-reference(s): 73, 76

ST low pressure org vapor deposition app; electroluminescent device fabrication low pressure org vapor deposition; nonlinear optical film low pressure org vapor deposition; light emitting film low pressure org vapor deposition

IT Phosphors
(electroluminescent; methods and apparatus for low pressure vapor phase deposition of organic)

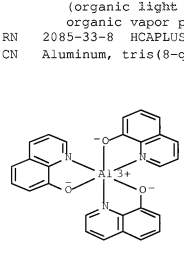
IT Electroluminescent devices
Electroluminescent devices
Semiconductor device fabrication
(methods and. apparatus for low pressure vapor phase deposition of organic thin films for)

IT 917-23-7P, 5,10,15,20-Tetraphenyl-21H,23H-porphine 2085-33-8P, Tris(8-hydroxyquinolinato)aluminum 51325-91-8P, 4-(Dicyanomethylene)-2-methyl-6-(p-dimethylaminostyryl)-4H-pyran 65181-78-4P, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine 123847-85-8P 124729-98-2P, MTDATA 224785-36-8P
(methods for low pressure vapor phase deposition of organic thin films and deposition apparatus and films produced by the methods)

OS.CITING REF COUNT: 65 THERE ARE 65 CAPLUS RECORDS THAT CITE THIS RECORD (71 CITINGS)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 37 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1997:756184 HCAPLUS Full-text
DOCUMENT NUMBER: 128:94828
ORIGINAL REFERENCE NO.: 128:18425a,18428a
TITLE: Low pressure organic vapor phase deposition of small molecular weight organic light emitting device structures
AUTHOR(S): Baldo, M. A.; Kozlov, V. G.; Burrows, P. E.; Forrest, S. R.; Ban, V. S.; Koene, B.; Thompson, M. E.
CORPORATE SOURCE: Princeton Materials Institute, Center for Photonics and Optoelectronic Materials, Department of Electrical Engineering, Princeton University, Princeton, NJ, 08544, USA
SOURCE: Applied Physics Letters (1997), 71(21), 3033-3035
CODEN: APPLAB; ISSN: 0003-6951
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 04 Dec 1997
AB A new technique for the deposition of amorphous organic thin films, low pressure organic vapor phase deposition (LP-OVPD), was used to fabricate organic light emitting devices (OLEDs) consisting of a film of aluminum tris-(8 hydroxyquinoline) (Alq3) grown on the surface of a film of N'-diphenyl-N,N'-bis(3-methylphenyl)1-1'biphenyl-4-4'diamine. The resulting heterojunction OLED has a performance similar to conventional, small mol. weight OLEDs grown using thermal evaporation in vacuum. The LP-OVPD grown device has an external quantum efficiency of 0.40 ± 0.05 and a turn-on voltage of .apprx.6 V. The rapid throughput demonstrated with LP-OVPD has the potential to facilitate low cost mass production of conventional small mol. based OLEDs, and its use of low vacuum in a horizontal reactor lends itself to roll-to-roll deposition of organic films for many photonic device applications. The OLEDs were grown on both glass and flexible polyester substrates precoated with transparent layers of indium tin oxide (ITO). The cathode material was Mg:Ag alloy (25:1).
IT 2085-33-8, Tris(8-quinolinolato)aluminum
(organic light emitting device using low pressure organic vapor phase deposition)
RN 2085-33-8 HCAPLUS
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
ST electroluminescent device org vapor phase deposition; aluminum quinolinolato low pressure vapor deposition
IT Surface roughness
(of organic light emitting device by low pressure organic vapor phase deposition using AFM)
IT Electric current-potential relationship
(of organic light emitting device using low pressure organic vapor phase deposition)
IT Vapor phase epitaxy
(organic light emitting device by low pressure organic vapor phase deposition)
IT Electroluminescent devices
(organic light emitting device using low pressure organic vapor phase deposition)
IT Polyesters, uses
(substrate; organic light emitting device using low pressure organic vapor phase deposition)
IT 2085-33-8, Tris(8-quinolinolato)aluminum 65181-78-4, TPD
(organic light emitting device using low pressure organic vapor phase deposition)
OS.CITING REF COUNT: 28 THERE ARE 28 CAPLUS RECORDS THAT CITE THIS RECORD (28 CITINGS)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 38 OF 38 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1995:547736 HCAPLUS Full-text
DOCUMENT NUMBER: 123:69921
ORIGINAL REFERENCE NO.: 123:12237a,12240a
TITLE: Manufacture of organic electroluminescent device
INVENTOR(S): Sato, Yoshiharu; Kanai, Hiroyuki
PATENT ASSIGNEE(S): Mitsubishi Kagaku KK, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

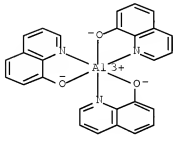
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07062526	A	19950307	JP 1993-205375 <--	19930819
PRIORITY APPLN. INFO.:			JP 1993-205375 <--	19930819

ED Entered STN: 13 May 1995
AB The device is manufactured by forming the organic light- emitting layer on a substrate at 60-150°. The layer may contain a metal complex of 8-hydroxyquinoline, which may be formed by vacuum vapor deposition. The device shows good heat resistance and emission stability for long periods.
IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum
7069-05-8 13978-85-3,
Bis(8-hydroxyquinolinato)zinc 14642-34-3,
Tris(8-hydroxyquinolinato)gallium

(manufacture of ~~electroluminescent~~ device containing hydroxyquinoline metal complex)

RN 2085-33-8 HCAPLUS

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (CA INDEX NAME)



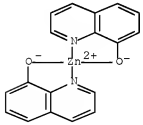
RN 7069-05-8 HCAPLUS

CN 8-Quinolinol, calcium salt (2:1) (CA INDEX NAME)

●1/2 Ca

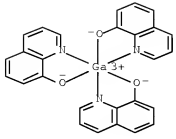
RN 13978-85-3 HCAPLUS

CN Zinc, bis(8-quinolinolato-κN1,κO8)-, (T-4)- (CA INDEX NAME)



RN 14642-34-3 HCAPLUS

CN Gallium, tris(8-quinolinolato-κN1,κO8)- (9CI) (CA INDEX NAME)



IC ICM C23C014-24
ICS C09K011-06; H05B033-10; H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST electroluminescent device hydroxyquinoline metal complex; deposition vacuum vapor electroluminescent film
IT Electroluminescent devices
Vapor deposition processes
(manufacture of electroluminescent device containing hydroxyquinoline metal complex)
IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7069-05-8 13978-85-3, Bis(8-hydroxyquinolinato)zinc 14514-42-2, Tris(8-hydroxyquinolinato)indium 14642-34-3, Tris(8-hydroxyquinolinato)gallium 15276-55-8 15956-38-4, Tris(8-hydroxyquinolinato)scandium 16009-78-2, Tris(8-hydroxyquinolinato)yttrium 67952-28-7, Bis(8-hydroxyquinolinato)magnesium
(manufacture of electroluminescent device containing hydroxyquinoline metal complex)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

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=>  d his nofile

     (FILE 'HOME' ENTERED AT 07:40:40 ON 02 MAR 2010)

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                 SEL RN

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L2            20 SEA SPE=ON  ABB=ON  PLU=ON  (1333-74-0/BI OR 15318-08-8/BI
                 OR 19553-62-9/BI OR 20791-15-5/BI OR 310888-77-8/BI OR
                 310888-80-3/BI OR 310888-81-4/BI OR 310888-82-5/BI OR
                 310888-85-8/BI OR 310888-87-0/BI OR 7358-26-1/BI OR
                 7440-37-1/BI OR 7440-59-7/BI OR 75-24-1/BI OR 7727-37-9/BI
                 OR 870126-56-0/BI OR 870126-57-1/BI OR 870126-58-2/BI OR
                 870126-59-3/BI OR 97-93-8/BI)
                 E 8-HYDROXYQUINOLINATE/CN
L3             1 SEA SPE=ON  ABB=ON  PLU=ON  8-HYDROXYQUINOLINATE/CN
                 E 8-HYDROXYQUINOLINE/CN
L4             1 SEA SPE=ON  ABB=ON  PLU=ON  8-HYDROXYQUINOLINE/CN
L5           685 SEA SPE=ON  ABB=ON  PLU=ON  148-24-3/CRN
L6             7 SEA SPE=ON  ABB=ON  PLU=ON  L5 AND (AL OR GA OR ZN)/ELS
L7            16 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND M/ELS
L8        663827 SEA SPE=ON  ABB=ON  PLU=ON  (AL OR GA OR ZN)/ELS
L9        122525 SEA SPE=ON  ABB=ON  PLU=ON  L8 AND  CCS/CI
L10       541302 SEA SPE=ON  ABB=ON  PLU=ON  L8 NOT L9
L11       541302 SEA SPE=ON  ABB=ON  PLU=ON  L10 OR L10
                 D 300000 RN
L12       300000 SEA RAN=(173351-91-2) SPE=ON  ABB=ON  PLU=ON  L10 OR L10
L13       241302 SEA SPE=ON  ABB=ON  PLU=ON  L11 NOT L12

     FILE 'HCAPLUS' ENTERED AT 08:07:19 ON 02 MAR 2010
L14        23243 SEA SPE=ON  ABB=ON  PLU=ON  L7
L15       143187 SEA SPE=ON  ABB=ON  PLU=ON  L9
L16       140299 SEA SPE=ON  ABB=ON  PLU=ON  L12
L17      2254991 SEA SPE=ON  ABB=ON  PLU=ON  L13

     FILE 'REGISTRY' ENTERED AT 08:23:38 ON 02 MAR 2010
L18           33 SEA SPE=ON  ABB=ON  PLU=ON  L8 AND HYDROXYQUINOL?
L19            9 SEA SPE=ON  ABB=ON  PLU=ON  16582-16-4/CRN
L20            1 SEA SPE=ON  ABB=ON  PLU=ON  L19 AND (AL OR GA OR ZN)/ELS

     FILE 'HCAPLUS' ENTERED AT 08:24:42 ON 02 MAR 2010
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L22        10121 SEA SPE=ON  ABB=ON  PLU=ON  L4
L23         1836 SEA SPE=ON  ABB=ON  PLU=ON  L5
L24            9 SEA SPE=ON  ABB=ON  PLU=ON  L19
L25            6 SEA SPE=ON  ABB=ON  PLU=ON  L6
L26         9679 SEA SPE=ON  ABB=ON  PLU=ON  L18
L27            1 SEA SPE=ON  ABB=ON  PLU=ON  L20
L28        11763 SEA SPE=ON  ABB=ON  PLU=ON  (L14 OR L15 OR L16 OR L17) AND
                 (L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27)
L29                QUE SPE=ON  ABB=ON  PLU=ON  LUM!N? OR ELECTROLUM!N? OR
                 ORGANOLUM!N? OR (ELECTRO OR ORGANO OR ORG#)(2A)LUM!N? OR
                 LIGHT?(2A)(EMIT? OR EMISSION?) OR EL OR E(W)L OR L(W)E(W)D
                 OR OLED OR LED
L30         8689 SEA SPE=ON  ABB=ON  PLU=ON  L28 AND L29
L31         2171 SEA SPE=ON  ABB=ON  PLU=ON  L30 AND PROC/RL
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L32        246823 SEA SPE=ON  ABB=ON  PLU=ON  "VAPOR DEPOSITION PROCESS"+PFT,
                  NT/CT
L33           251 SEA SPE=ON  ABB=ON  PLU=ON  L31 AND L32
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L35           414 SEA SPE=ON  ABB=ON  PLU=ON  L30 AND (L21 OR L22 OR L23)
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L37            12 SEA SPE=ON  ABB=ON  PLU=ON  L36 AND CPS/RL
L38            11 SEA SPE=ON  ABB=ON  PLU=ON  L36 AND (VAPOR DEPOSIT? OR
                  VAPOUR DEPOSIT?)
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                  (VESSEL# OR CHAMBER# OR TANK# OR SYSTEM# OR SPACE# OR
                  COMPARTMENT# OR RECEPTACLE# OR PORTION# OR PORT# OR
                  ASSEMBLY# OR SUB#(W)ASSEMBLY#)
L41             1 SEA SPE=ON  ABB=ON  PLU=ON  L36 AND L40
L42             7 SEA SPE=ON  ABB=ON  PLU=ON  L31 AND L40
L43            29 SEA SPE=ON  ABB=ON  PLU=ON  L39 OR L41 OR L42
L44            20 SEA SPE=ON  ABB=ON  PLU=ON  L43 AND (1840-2006)/PRY,AY,PY
L45           258 SEA SPE=ON  ABB=ON  PLU=ON  L30 AND (L21 OR L22)
L46            13 SEA SPE=ON  ABB=ON  PLU=ON  L45 AND L32
L47             3 SEA SPE=ON  ABB=ON  PLU=ON  L45 AND L40
L48            71 SEA SPE=ON  ABB=ON  PLU=ON  L45 AND (FEED? OR DELIVER? OR
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L49            58 SEA SPE=ON  ABB=ON  PLU=ON  L48 AND OPTIC?/SC,SX
L50            49 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND (1840-2006)/PRY,AY,PY
L51            65 SEA SPE=ON  ABB=ON  PLU=ON  L44 OR L50
L52             5 SEA SPE=ON  ABB=ON  PLU=ON  L51 AND L14
L53               QUE SPE=ON  ABB=ON  PLU=ON  FILM? OR THINFILM? OR LAYER?
                  OR OVERLAY? OR OVERLAID? OR LAMIN? OR LAMEL? OR (MULTILAYER
                  ?) OR SHEET? OR LEAF? OR FOIL? OR COAT? OR TOPCOAT? OR
                  OVERCOAT? OR VENEER? OR SHEATH? OR COVER? OR ENVELOP? OR
                  ENCAS? OR ENWRAP? OR OVERSPREAD?
L54            50 SEA SPE=ON  ABB=ON  PLU=ON  L51 AND L53
L55            49 SEA SPE=ON  ABB=ON  PLU=ON  L7 AND (L21 OR L22 OR L23)
L56            10 SEA SPE=ON  ABB=ON  PLU=ON  L55 AND L29 AND L53
L57            21 SEA SPE=ON  ABB=ON  PLU=ON  L55 AND L29
L58            21 SEA SPE=ON  ABB=ON  PLU=ON  L56 OR L57
L59            18 SEA SPE=ON  ABB=ON  PLU=ON  L58 AND (1840-2006)/PRY,AY,PY
L60            38 SEA SPE=ON  ABB=ON  PLU=ON  L44 OR L59
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L62            38 SEA SPE=ON  ABB=ON  PLU=ON  (L60 OR L61)
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